Physician Adherence to Communication Tasks with
Adult vs. Older Adult Female Patients

Amanda Williams

Ball State University
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Chapter 1

INTRODUCTION

Due to advancements in science, public health, and medicine, people are living longer than ever before. Subsequently, the proportion of older adults within the population is growing rapidly and the number of older adults seeking health care is projected to reach substantial numbers within the near future (Centers for Disease Control and Prevention [CDC], 2009). Currently, older adults make up 13% of the United States population, but account for 50% of hospital visits and appointments with physicians and these numbers are expected to increase within the next 20 years (Alliance for Aging Research, 2002; CDC, 2007, 2009). According to CDC (2009) estimates, by the year 2030, 20% of the United States population will be over age 65. Health care for older adults is estimated to cost three to five times more than for younger adults. This fact, combined with demographic changes will result in increased health care costs for the U.S by nearly 25% (CDC, 2007).

According to the CDC (2004), the United States’ health care system is unprepared to face the growing number of older adults in what has been termed “the graying of America” (p. II). Specifically, there is a shortage of health care professionals qualified to deal with the unique medical challenges facing older patients. Research has suggested that many health care providers lack the knowledge and skills required to provide adequate care for aging patients (CDC).
In light of concerns regarding health care for older adults, there has been considerable effort to define what constitutes “effective care” for this population (Callahan et al., 2004). In 2007, the Institute of Medicine (IOM) announced its plan to examine the health care needs of older adults and how those needs are being addressed through education, training, practice, and funding (IOM, 2007). Additionally, over the past decade, a large body of research has been dedicated to identifying the unique needs of older adults as well as defining elements of cost-effective and satisfactory medical care for patients of all ages (Walker, Arnold, Miller-Day, & Webb, 2001). Studies have focused on a range of variables related to older patients’ satisfaction with medical care, including physical surroundings, support staff, type of service, treatment staff, quality of service, amount of service, and procedures. (Cryns, Nichols, Katz, & Calkins, 1989; Montaglione, 1999; Wroth & Pathman, 2006). Additionally, research has begun to examine communication and the relationship between health care providers and patients (Bartlett et al., 1984; Flocke, Miller, & Crabtree, 2002; Stewart, 1995; Wroth & Pathman).

Physician-Patient Relationships and Older Adults

There is evidence to suggest that the interactions between physicians and older patients, as well as treatment approach, differ from those between physicians and younger patients (Greene, Adelman, & Majerovitz, 1996). For example, Callahan et al. (2004) compared the visits with older and younger patients and found that physicians spent more time on technical aspects (e.g., physical examinations) with older patients, whereas more time was dedicated to interpersonal interactions with younger patients. Further, physician interactions with older adult patients were more likely to be biomedical in nature (versus
biopsychosocial), compared to younger adults (Roter et al., 1997). Researchers have theorized that differences may be attributed to a number of variables, including (a) time spent with the physician, (b) expectations of the medical encounter, and (c) communication style preferences.

Preliminary research suggested that the physician-patient relationship may be particularly influential in the case of older adult patients. First of all, the older adult population spends a considerable portion of its time interacting with physicians (Walker et al., 2001). This is likely due to the fact that the number of chronic health problems tend to increase with age, particularly in adults with low socioeconomic status (Collins, Davis, Schoen, Doty, & Kriss, 2006; Duffy et al., 2004; Nussbaum & Coupland, 2004). As a function of the substantial amount of time spent with the physician, the physician-older adult relationship appears to evolve over time (Beisecker, 1996).

Additionally, older adult patients appear to hold different expectations for medical interactions. For example, older adult patients may be more accepting of the traditional physician-patient relationship in which the physician assumes authority (Bradley, Sparks, & Nesdale, 2001). Much of the literature (Bradley et al.; Haber, 2007, Montaglione, 1999) attributes this to generational differences. Historically, it was not uncommon for a family physician to make house calls and have long-standing relationships with patients. Further, the physician was viewed as the sole expert in medicine as well as an important authority figure within the community. Generally, patients were expected to follow his or her recommendations without question. As a result of this authoritative approach to care (common before the era of consumerism) older adults learned to assume the role of the passive patient (Bradley et al.). It was predicted, however, that older adults’ attitudes and
expectations of medical care would begin to shift as the “baby boomers” (i.e., individuals born between 1946 and 1964) approach age 65 (Montaglione). This generation would be the most educated cohort of older adults and likely to reject an authoritative communication style and more likely to take an active role in their care (Bradley et al.; Haber). Comparing current older adults to future cohorts Montaglione predicted, “what was once thought to be satisfactory by past generations will be deemed insufficient for themselves” (p. 6).

Purpose of the Study

The purpose of the current study was two-fold. First, the study investigated whether there were any differences in how physicians communicated with female patients as a function of age. Second, this study examined whether the level of communication adherence by physicians was related to patients’ view of the working alliance between physicians and patients. Only female participants were used in the study as past studies have suggested that females utilize health care more frequently and that female patients engage in more non-verbal and verbal behaviors when interacting with physicians (Gabbard-Alley, 1995; Hall et al., 1988). Another reason for selecting only females was to minimize confounding variables by controlling for sex differences.

As medicine has adopted a biopsychosocial approach to care, the physician-patient relationship has become more interpersonally-focused. Subsequently, medical education programs have begun to teach and evaluate physicians’ communication skills in an attempt to promote effective communication with patients. The Ball Memorial Hospital Family Medicine Residency (BMH FMR) in Muncie, Indiana, adopted a task-based model for communication training and evaluation. Additionally, the FMR faculty
developed an instrument used to evaluate communication skills and provide feedback to physicians. The Behavioral Science Tape Review Checklist (BSTRC) is based upon the Kalamazoo Essential Elements Communication Checklist (Makoul, 2001a; L. Daniel, personal communication, August 27, 2007) and is designed to meet the Accreditation Council for Graduate Medical Education (ACGME) Communication and Interpersonal Skills Competencies (ACGME, 2007). The current study examined whether communication behaviors identified in the BSTRC were comparably carried out across all adult female patients, as research has suggested that physicians may interact and communicate differently with older adult patients (Haug, 1996; Kemper, 1994; Nussbaum & Coupland, 2004).

Establishing a meaningful interpersonal connection (e.g., working alliance) with patients may enhance the quality of physician-patient communication as well as promote positive health outcomes (Roter, 2000). Past research has suggested that the physician-patient working alliance may substantially impact medical care (DiMatteo & Taranta, 1979). The working alliance between patients and physicians has been linked to specific communication behaviors, many of which are found in the communication model to be investigated in the current study (Matthews, Suchman, & Branch, 1993). Although skill-based communication training has been shown to improve interactions in medical encounters (Smith et al., 1998), it remains unclear whether a stronger therapeutic relationship between the physician and patient is associated with any particular communication behaviors, as the specific behaviors on the BSTRC were not examined. This cross-sectional study examined whether a relationship existed between adherence to
the communication model and the strength of the working alliance (a measure of a therapeutic relationship) between physicians and patients.

Importance of the Study

There is ample literature in the general area of physician-patient relationships (Emanuel & Emanuel, 1992; Roter, 2000, Taylor, 2003); however, the majority of past research studied younger cohorts of patients and has failed to identify what constitutes effective communication skills with patients of all ages. Previous studies of physician-patient communication have investigated the influence of sociodemographic patient variables, such as gender, health status, and educational level (Hall, Irish, Roter, Ehrlich, & Miller, 1994). A few studies have attempted to investigate differences in physician-patient communication based on patient age and have primarily focused on differences in interview length or overall “style” of interactions (Bradley et al., 2001; Mann et al., 2001). Of those studies that examined specific communication behavior, most attended to only one component of communication, such as chatting behavior or question-asking (Daaleman & Mueller, 2004). Further, most of those studies tended to be exploratory in nature, lacking a sound theoretical basis to guide the investigation and have failed to provide specific guidance for physician communication behavior (Bendapudi et al., 2006; Bradley et al.; Daaleman & Mueller). With a lack of support for a particular communication model or effectiveness of specific communication behaviors, it is unclear whether communication guidelines currently used in family medicine are applicable across the life span, specifically with the older adult population (Greene et al., 1996). The lack of research in this area limits the generalizability of these guidelines across all family medicine patients. With the older adult population growing at an unprecedented
rate, it is vital that physicians have the ability to effectively communicate with these patients.

Physician-patient communication is particularly relevant in primary care and family medicine, as patients are typically seen over a number of years and treated for a variety of problems (Flocke, Miller, & Crabtree, 2002). Brody (2006) suggested that as a result of longer physician-patient relationships and the nature of their training, family medicine physicians are more apt to “humanize” aspects of patient care, or place substantial value in patients’ perspective and worldview. Subsequently, the area of family medicine has historically prided itself on the quality of its physician-patient relationships. Therefore, the Family Medicine Residency provided an appropriate setting in which to examine aspects of physician-patient communication and working relationships.

A number of studies have attempted to connect aspects of physician-patient communication to a variety of outcomes, including patient satisfaction, which has not been operationally defined nor has it proved to be a stable indicator of communication quality (Daaleman & Mueller, 2004; Stallard, 1996). In fact, studies have found only minimal correlations between content of medical encounters and satisfaction (Callahan et al., 2004). Additionally, studies have repeatedly demonstrated that older adults reported that they were generally satisfied with medical care, despite evidence that suggested that their communication needs were not being met (Staniszewska & Ahmed, 1999). Therefore, researchers have suggested that future research examine physician-communication and its relation to a well-established relational outcome. Fuertes and colleagues (2007) suggested that physician-patient communication working alliance should be examined as it has implications for medical education, training, and evaluation.
Past studies have examined the alliance between physicians and patients; however, they have been based on case studies and physician experiences, rather than empirical data. Additionally, Fuertes et al. suggested that the patient-provider working alliance should be examined with a more diverse sample of patients, as the majority of work has been done with middle-aged, Euro-American, medically stable samples. Matthews, Suchman, and Branch (1993) recommended that further investigation of the physician-patient therapeutic relationship will help identify and define effective components of communication during medical encounters.

In summary, interactions between physicians and patients may impact the quality of health care. Further, it appears that an effective physician-patient relationship is particularly pertinent to older adult patients, as they spend more time interacting with physicians and tend to place more value on this relationship compared to younger patients (Hummert & Nussbaum, 2001; Hummert, Wiemann, & Nussbaum, 1994). Some researchers have even proposed that the effective delivery of health care for older adults hinges upon the relationship between patient and physician (Reyes-Ortiz et al., 1997). According to Hummert and Nussbaum, “the physician-patient relationship is central to the maintenance of health for older adults” (p. 282). Therefore, it is essential to develop a better understanding of communication between physicians and older adult patients. Over the past decade, the medical field and its professional organizations have begun to acknowledge this need. For example, in 1994, the International Conference on Communication, Aging, and Health was held in order to address communication issues associated with older adults (Makoul, 2001a). Additionally, initiatives such as the Accreditation Council for Graduate Medical Education (ACGME) Outcome Project have
included competency requirements related to communication skills and diverse patients (ACGME, 2007). Beginning in 2005, United States medical students were required to exhibit interpersonal competence in order to meet the provisions for the United States Medical Licensing Examination (USMLE; Rider, Hinrichs, & Lown, 2006). Clearly, physician-patient communication is an issue of concern for medical education and practice and should be considered a “central clinical function” (Stewart, 1995, p. 1432). Stewart recommended that communication-based curriculum in medical education should be explored at all levels.

Physician-Patient Communication and Health Psychology

As medicine has moved towards a more biopsychosocial approach to care, there has been an increased emphasis on patient factors such as health belief systems, biological characteristics, behavior, psychological factors, social functioning, and other elements (American Psychological Association [APA], Division 38, 2007, 2009; Matarazzo, 1980). As a result, a natural link between health care and psychology was formed and mental health practitioners began to find a niche within the medical field. Health Psychology has been defined as the educational, scientific, professional contributions of psychology to health, including prevention and treatment (APA, 2007; Matarazzo). As the field of Health Psychology continues to grow, so do the potential roles of psychologists within medical settings as they can be found working as counselors, psychologists, liaisons, educators, and researchers (Roemer et al., 1998). Therefore, the current study has implications for physicians and medical educators, as well as health psychologists working or consulting in medical settings.
Research Questions and Hypotheses

Research Question 1

Does physician adherence to communication tasks (as measured by the BSTRC) differ between adults and older adults (i.e., female patients age 18-64 and female patients age 65+)?

Null Hypothesis:

1. The level of physician adherence (total BSTRC score) does not differ significantly between the two age groups.

Research Question 2

Is there a relationship between the level of physician adherence to communication behaviors and patient ratings of working alliance with their physicians (as measured by the Working Alliance Inventory-Short Form)?

Null Hypothesis

1. There is no significant relationship between the level of physician adherence to communication behaviors and patient ratings of working alliance with their physicians.

Definition of Terms

Older Adult

For the purpose of this study, the term older adult refers to an individual aged 65 or older. At age 65, adults are eligible for full Social Security benefits and there is general agreement that age 65 constitutes old age in America (Haber, 2003).

Communication Adherence
Communication adherence is defined as the total number of communication behaviors (as identified in the BSTRC) that a physician completes during a medical encounter with a patient. The term adherence has been utilized in past communication literature. For example, Catley and colleagues (2006) used adherence to describe the degree to which counselors followed the Motivational Interviewing Skills Code (MISC), another example of a communication assessment tool (Miller & Mount, 2001). In the present study, communication adherence will be measured using behavioral observation techniques and recorded using the BSTRC. Each task accomplished will be scored as “1” and will be summed to obtain a total adherence score. Higher scores are indicative of higher adherence. The range of possible scores is 0-25. There is not a particular score indicating whether communication is at an “acceptable” level, as this instrument is typically used as a feedback tool rather than an evaluative tool in the context of the Family Medicine Residency.

Chronic Disease

For the purpose of this study, an illness was classified as a chronic disease if it was included on the Center for Disease Control and Prevention’s (2008) report titled Indiana: Burden of Chronic Disease. This report identified the five most common categories of chronic disease in Indiana. The categories included the following: heart disease, stroke, cancer, diabetes, and arthritis. Additionally, lower respiratory diseases (e.g., COPD, chronic bronchitis) were listed as one of the top five causes of death in Indiana, so this category was included as well. The CDC website offers a list of specific conditions that are included in each category and these conditions were compiled into a checklist which was used to identify the number of chronic diseases for each participant.
For a complete listing of specific conditions that were included within the five categories (based on CDC guidelines), see Appendix A.

Working Alliance

Working alliance is defined as the strength of the working relationship between physician and patient, indexed by the total number of items endorsed by a patient on the Working Alliance Inventory-Short Form (WAI-SF; Tracey & Kokotovic, 1989). The working alliance is a relationship between physician and patient comprised of three components including, (a) goals (physician-patient agreement on specific goals of treatment), (b) tasks (physician-patient agreement and cooperation on tasks related to treatment and goals), and (c) bond (the level of emotional bond between physician and patient, often characterized by liking and trust (Bordin, 1976). Working alliance was first termed by Greenson (1967) and Bordin later offered his conceptualization, including the three aforementioned components.

Initial Limitations of the Study

The design of the study presents some limitations. One limitation is the fact that there are no existing psychometric data available for the BSTRC, as it is a relatively new instrument and is only used at the Family Medicine Residency in Muncie, Indiana. Additionally, the accuracy of self-report data used in the assessment of the working alliance was dependent on participants’ ability to understand items as well as their willingness to be truthful in their ratings. Therefore, any conclusions based on these data may be limited. Further, it is unclear whether the participants in this study were representative of the general population of family medicine patients. A final weakness of the study is the cross-sectional design. The ideal study of physician-patient relationships
would use a longitudinal design, examining interpersonal communication and working alliance and how these might be influenced over time.
A 2002 study conducted by the Merck Institute of Aging and Health found that only 50% of primary care physicians in the United States believed their colleagues to be capable of effectively treating older adults (CDC, 2004). Although it is unreasonable to suggest mandatory specialization in geriatric medicine for all providers who serve older adults, experts suggest that it is essential for providers to understand the “logic, goals, and some of the techniques of good geriatric care” (Alliance for Aging Research, 2002, p. 12).

Health care organizations such as the Institute of Medicine (IOM) and CDC have taken notice of the shortage of providers prepared to effectively work with older adults. As a result, initiatives have been aimed at increasing the number of physicians trained to meet the unique needs of this population (CDC, 2007; IOM, 2007; Kuehn, 2009). Research and training have begun to focus on issues ranging from reducing health care costs of older adults to improving communication between older adult patients and health care providers. Past research (Bendapudi et al., 2006; Roter, 2000; Taylor, 2003; Walker et al., 2001) has examined physician-patient communication, but has failed to adequately investigate the influence of patient age on how well physicians adhere to task-based communication models. This is important, as preliminary research has suggested that older adults’ health may be influenced by their relationships with physicians (Hummert & Nussbaum, 2001; Krowinski & Steiber, 1996; Stewart, 1995; Walker et al., 2001).
In terms of older adult patients, satisfaction with care appears to be related to communication and affective domains, rather than the technical skills of physicians (Reyes-Ortiz et al., 1997). For example, Callahan et al., (2004) explained, “there is evidence here that the older patient elicits, and perhaps values, a different kind of visit, perhaps with more emphasis on emotional connection to the physician and less emphasis on information giving as the amount of time in life decreases” (p. 24). The majority of older adult patients also prefer a supportive environment in which interpersonal interactions are stimulating (Ryan & Butler, 1996). Additionally, older patients desire the opportunity to fully express themselves and “tell their story” (Reyes-Ortiz et al., 1997). There are also specific differences in the communication style that older adults prefer from physicians (verbal and non-verbal). These differences will be explored in more detail later in this review.

The following literature review discusses the physician-patient relationship, with a specific focus on interpersonal communications within the medical encounter. Models and significant factors in the physician-patient relationship will be reviewed, with a concentration on how patient age may influence communication. Additionally, this review will identify the interpersonal communication competencies commonly used for assessment and evaluation in medical training programs.

Physician-Patient Relationship

The relationship between physician and patient has been widely represented and investigated within both the medical and social science literature and has long been regarded as the foundation for healing (Roter, 2000). Some authors have even traced the interest in this healing relationship to ancient Greek philosophers (Roter). As modern
medicine evolved during the 20\textsuperscript{th} century, the physician-patient relationship seemed to have taken a back seat to the biomedical aspects of medical care. However, over the past 20 years, the field of medicine has begun to move away from a biomedical model of patient care to a biopsychosocial approach to care (Engel, 1977).

From a biopsychosocial perspective, the patient is viewed as part of a system that includes factors such as health beliefs, biological characteristics, behavior, psychological factors, social functioning, and other elements (Matarazzo, 1980). As this approach promotes the inclusion of psychosocial contexts into medical care, it has become increasingly important for physicians to understand the worldview of patients and tailor treatments according to patients’ desires and needs (NIA, 2008). Subsequently, the field of medicine has experienced a renewed interest in defining and promoting effective communication between physicians and patients.

Traditionally, the physician was viewed as the expert authority and patients assumed a passive role and followed recommendations with minimal participation in decision-making; however, with the emergence of managed-care and increased access to medical information and resources, the majority of patients are becoming more knowledgeable and involved in the physician-patient relationship, a development that has been termed a “consumerist attitude” (Taylor, 2003, p. 286).

Models

A review of the literature revealed a number of models of the physician-patient relationship. According to Roter (2000), there are four models or “prototypes” of the relationship, including (a) paternalism, (b) consumerism, (c) default, and (d) mutuality. In the paternalism relationship model, the physician dominates the interaction, goals, and
Physician Adherence

decision-making, whereas in consumerism the opposite is true; the patient takes the lead and the physician serves the role of a technical consultant. According to Roter, when the physician-patient relationship becomes the source of tension or is at a standstill, this is characteristic of the default model and warrants change within the relationship. Roter suggested that the mutuality model represents the optimal relationship between physician and patient. In this model, there is balance between the roles of the physician and patient in terms of agenda setting, goals, and interaction. This balance is an integral part of patient-centered care, a paradigm of care widely adhered to among medical practice and training (IOM, 2001; Mead & Bower, 2000). Patient-centered care will be discussed in more detail later in this review.

Emanuel and Emanuel (1992) also identified four models of the physician-patient relationship: (a) paternalistic, (b) informative, (c) interpretive and (d) deliberative. In the paternalistic model, the physician is viewed as the decision-maker and uses selected information in order to persuade the patient to comply with his or her recommendations. This perspective assumes that the patient will be grateful for the physician’s guidance. In the informative model, the physician’s role is simply to provide facts related to diagnoses and interventions without a need to understand the patient’s values. In other words, the physician is viewed as a source for expert information, but the decision-making is within the patient’s control. The third model, interpretive, is similar to the informative model in that the physician presents facts to the patient; however, in the interpretive model, the physician-patient relationship is designed to “elucidate the patient’s values and what he or she actually wants, and to help the patient select the available medical interventions that realize these values” (Emanuel & Emanuel, p. 2221). The unique aspect of the
interpretive model is that it involves interaction between physician and patient with the
goals of mutual understanding. Finally, in the deliberative model, the physician is open
to discussing patient values, as long as they are health-related. From this perspective, the
patient becomes empowered to examine preferences and values through dialogue
(Emanuel & Emanuel). According to the authors, the deliberative model is the foundation
of an optimal physician-patient relationship, as it encourages patient autonomy and
integrates the patient’s health beliefs and values. The deliberative model fits within the
patient-centered care paradigm, along with the mutuality model endorsed by Roter
(2000). Both models endorse a physician-patient relationship that (a) approaches care
from a biopsychosocial perspective and (b) encourages “relational reciprocity” between
physician and patient, two key factors in patient-centered care (Taylor, 2003).

As is evident from the multiple models of the physician-patient relationship, the
nature of such encounters can be complex. The physician is expected to address issues
that are personal (e.g., health, lifestyle), while maintaining a professional distance.
Similarly, the physician is challenged to attend to interpersonal aspects of the encounter
while simultaneously managing medical responsibilities (Taylor, 2003). This “balancing
act” can be difficult to manage, especially if physicians are not equipped with effective
interpersonal skills.

Communication Skills

Research has continued to suggest that physical healing may depend largely on
the quality of the interpersonal communication between patients and physicians
(DiMatteo & Taranta, 1979; Hummert & Nussbaum, 2001; Krowinski & Steiber, 1996;
Stewart, 1995; Walker et al., 2001). Physicians’ communication behaviors are easily
observed by patients and can influence satisfaction with the physician-patient relationship.

Communication skills are considered by many to be the “art of medicine” and have been historically referred to as “bed side manner” (Fuertes et al., 2007). Given the increasing demand on the health care system, physicians are acutely aware of the pressures of limited time and tend to view interpersonal communication with patients as a luxury (Walker, et al., 2001). As a result, physicians may feel compelled to concentrate on symptoms and diagnosis, at the expense of interpersonal aspects of their interactions with patients. Although medical information is the central component of a medical encounter, patients appear to respond more to the interpersonal behaviors of the physician (Bendapudi et al., 2006: Walker et al.). In fact, research has shown that patient satisfaction is often influenced more by the quality of the physician-patient relationship than a physician’s technical skills (Bendapudi et al.). Researchers have speculated that this is largely due in part to the fact patients tend to rely on observable traits when evaluating physicians and technical quality is difficult for patients to observe. In a study of physician-patient interactions conducted at the Mayo Clinic (Bendapudi et al.), patients were provided with “health report cards” containing appraisals of physicians’ technical and interpersonal skills. Despite having knowledge regarding technical skills, 1/3 of patients chose to select physicians based on the quality of their interpersonal skills (Bendapudi et al.). This is not to say that technical skills are unimportant, rather interpersonal skills are easier for patients to judge. For example, according to a study by Walker et al., physicians tended to utilize more open-ended questions towards the beginning of the medical encounter, while closed-ended questions became more
prevalent towards the end of the encounter. As patients observed these physician behaviors, they were able to discern when physicians were hurried, preoccupied, tired, or disinterested. Likewise, patients were able to sense compassion, interest, and confidence.

**Patient Satisfaction**

Past research has demonstrated that satisfactory interpersonal skills are essential to trusting physician-patient relationships (Bendapudi et al., 2006). While it seems that patients are generally satisfied with their overall care, they have cited a need for improved communication with physicians (Walker et al., 2001). In a survey of patient satisfaction, Treadway (1983) surveyed 81 patients who were visiting a general practitioner for the first time. Patients were administered the Medical Interview Satisfaction Scale (Wolf, Putnam, James, & Stiles, 1978) along with a series of six questions to which patients were asked to respond ”yes” or “no.” Results suggested that the majority of patients (83%) had questions or concerns that they wished to express, but only 37% actually expressed their concerns to their physician. Of those who did voice concerns during the encounter, most revealed that they did so with little or no encouragement from their physician. Results suggested that patient satisfaction was significantly improved when: (a) patients felt understood by their physician, (b) patients were able to express their questions or concerns, and (c) patients were older. Satisfaction was not shown to be associated with: (a) level of patient participation in the encounter, (b) patients’ questions being answered or concerns addressed, (c) improved patient health, (d) sex, socioeconomic status, education level of the patient, or (e) age or sex of the physician.
There is limited empirical research related to patient preferences for interpersonal behaviors within the medical encounter (Little et al., 2001), however, research has shown that in general, patients desire to have an opportunity to actively participate in the medical encounter and have their concerns and opinions met with consideration and respect. In an attempt to explore patient experiences and preferences related to physician behaviors, Bendapudi et al. (2006) conducted patient interviews. Results of the interviews were independently coded and behavioral themes were identified. The following seven physician behavioral descriptors were identified as most preferred by patients:

1. Confident: Behaves in an assured manner; engenders trust
2. Empathetic: Attempts to understand patient experiences, both physical and emotional
3. Humane: Demonstrates care, compassion, and kindness
4. Personal: Interacts with patient as individual, treating patient as “more than just a patient”
5. Forthright: Explains information in clear and forthright manner
6. Respectful: Includes patient in decision-making
7. Thorough: Demonstrates conscientiousness and persistence

Wolf et al. (1978) identified three domains that have been shown to be related to patient satisfaction with the physician-patient relationship. These domains included cognitive (e.g., the physician’s explanations, the patient’s understanding of information), affective (e.g., the patient’s perception of the physician-patient relationship, trust in the physician), and behavioral (e.g., the patient’s evaluation of the physician’s behavior,
Further, Haug (1996a) maintains that satisfaction with a physician-patient relationship was determined by examining six elements:

(a) mutual respect for the interests and needs of each, (b) ability of each to access the other for consultation, (c) adequate and understandable information from each on the health issues involved in the interaction, (d) mutual willingness to make and accept necessary referrals to other experts, (e) reassurance about the appropriateness of each other’s behavior, and (f) a specific mutually agreed-upon course of action to deal with the health issues raised (pp. 34-35).

The level of satisfaction with the physician-patient relationship has been repeatedly linked to a number of patient outcomes, including improvement in health status, improved functions, decreased pain, and psychological health (Stewart, 1995). When patients are satisfied with physician-patient interactions, they may gain a sense of competence and control, and may experience improved health outcomes (Hummert & Nussbaum, 2001). Patients who were satisfied with their relationship with their physicians have better health outcomes and better rates of medical compliance (Krowinski & Steiber, 1996; Walker et al., 2001). Patients’ emotional health has also been shown to be impacted by the quality of physician-patient relationships (Bendapudi et al., 2006). Additionally, satisfactory relationships may benefit physicians through higher compliance rates and successful treatment of the patient, whereas low satisfaction has been shown to be related to lower treatment compliance, delay in seeking further treatment, and poor understanding and retention of medical information (Hummert & Nussbaum; Krowinski & Steiber; Wilkin, 1992). Further, research has demonstrated that patient satisfaction may hold financial and legal benefits for providers. Satisfied patients
were more likely to return to the provider for future care and less likely to file malpractice claims (Eisen et al., 2001; Kasper & Riley, 1992; Krowinski & Steiber; Roter et al., 1997). As stated early, patient satisfaction has been shown to have a number of implications for patients as well as physicians.

Patient Participation

It seems that patient preferences and satisfaction with interpersonal interactions during medical encounters can vary substantially between patients. Specifically, patients may differ in their desire to play a participating role within medical encounters (Haber, 2007; Beisecker & Beisecker, 1990). Based on a 2006 review of literature, Kiesler and Auerbach (2006), proposed that preferences for decision making existed on a continuum. On the “passive” end, patients chose to leave decision making to their physician, whereas on the “highly active” end, patients choose to make final decisions. Situated between the two ends, “collaborative” decision making is defined by the shared decision making role between the physician and patient. Based on this conceptualization of decision making, it appears that many patients prefer an active role; however, studies have identified groups of patients that prefer a “passive” role, including those with poor health status, less education, and males. Additionally, research has repeatedly demonstrated that older patients have less desire to make decisions related to their medical care and tend to be less assertive in general when communicating with physicians (Adelman, Greene, Charon, & Friedman, 1990; Benbassat, Pilpel, & Tidher, 1998).

Although research related to patient preferences appears to be limited, one area that has been widely studied is medical decision-making (Bendapudi et al., 2006; Levinson, Kao, Kuby, & Thisted, 2005). Levinson and colleagues conducted patient
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interviews seeking information regarding patient preferences for participation in medical decision making. Results indicated that 96% of respondents preferred to be provided with information, be presented with treatment options, and have their opinions elicited by their physician; however, when it came to final treatment decisions, 52% of respondents preferred to relinquish the responsibility to the physician. These findings were consistent with previous research (Beisecker & Beisecker, 1990). Although many patients left decisions to their physicians, the majority of patients interviewed stressed the value of having the opportunity to discuss treatment options and have their opinions and feelings considered by their physicians.

One particular group that was less inclined to participate in medical decision making was older adults (Benbassat et al., 1998). There may be a number of explanations for this, including declining health and/or changes in communication ability. Some have attributed this difference to the fact that the current generation of older adults was raised during a time when the physician was the authority and patients expected him or her to make all medical decisions (Benbassat et al.). Alternative theories have cited physician attitude and behavior as the influential factor in patient preferences for decision making. For example, when working with older patients, physicians tend to be less patient, less attentive, and less collaborative, which creates a challenge for older patients to play active or even collaborative roles in medical decision making (Haug, 1996a, 1996b; Hummert & Nussbaum, 2001; Reyes-Ortiz et al., 1997). Some authors have proposed that older patients would likely benefit if they took a more active role within the physician-patient relationship, particularly in the area of decision-making (Haber, 2007). Attempts to increase patient involvement have included the development of patient education
programs designed to facilitate active patient participation through communication skills training (Taylor, 2003). Programs such as these emphasize the importance of effective communication within the physician-patient relationship.

**Interpersonal Components of the Physician-Patient Relationship**

In the mental health literature, interpersonal communication between psychotherapist and client has been widely studied for over 50 years (Horvath & Symonds, 1991; Orlinsky, Ronnestad, & Willutzki, 2004; Rogers, 1957). Studies have examined components of the therapeutic relationship, including psychotherapist and client variables and their influence on the interpersonal process, communication (verbal and non-verbal), and outcome of psychotherapy (Clarkin & Levy, 2004; Tryon, 2002). Health communication literature has suggested that many of the communication skills used in psychotherapy could also be effective within the physician-patient relationship (Roberts, 2004; Taylor, 2003; Walker et al., 2001). DiMatteo and DiNicola (1982) reflected this thought in the statement, “the art of medicine involves a knowledge of and comfort with basic counseling skills” (p. 23). Further, when effective communication skills are utilized within the physician-patient relationship, processes and outcomes may mirror those in the psychotherapeutic relationship (e.g., establishment of rapport, engagement, working alliance; Bendapudi et al., 2006; Reyes-Ortiz, Gheorghiu, & Mulligan, 1997; Tryon, 2002). Other psychological aspects of interpersonal communication may be applied to medical encounters. For example, relational variables including comfort with communication, rapport, compliance intent, professional care, perceived time, and depth of relationship have been shown to be related to patient satisfaction and health outcomes (Kinnersley et al., 1996).
As the nature of the physician-patient relationship has changed, the role of communication has become increasingly significant. The interpersonal exchange in this relationship “is not only therapeutic in a general sense, it also provides the conditions for understanding and the avoidance of misunderstandings” (Roberts, 2004, p. 232). Generally, these “therapeutic conditions” are created by the interaction of provider characteristics and behaviors, patient characteristics and behaviors, and qualities of the interaction (Taylor, 2003). Some authors have more broadly conceptualized communication between physician and patient to also include the setting in which the exchange occurs. Past research has identified the core components that serve as groundwork in the physician-patient relationship, including goal setting, values, and function (Roter, 2000). Specific measures of relationship quality such as good listening, empathy, interpersonal skills, ease of communication, trust, and commitment have been found to be valued by patients (Roberts).

Trust. A number of studies have identified trust as a key element within the physician-patient relationship and have suggested that trust can impact patient outcomes (Fiscella et al., 2004; Thom, 2001; Thom, Kravitz, Bell, Krupat, & Azari, 2002; Walker et al., 2001). In a study of 732 patients from internal medicine, family practice, and cardiology, results indicated the level of trust in the physician was correlated with patient satisfaction immediately following a visit as well as 2-weeks post-visit. Additionally, patients with higher levels of trust showed improvement in symptoms two weeks following their visit (Thom et al.). Fiscella and colleagues found that older adult patients exhibited a higher level of trust within the physician-patient relationship. Additionally, the presence of certain health conditions was related to level of patient trust. In another
study that examined trust, interactions were analyzed using a participant observer who directly observed and coded medical encounters (Walker et al.). Trust was among one of the five major themes that were derived from the data (e.g., control, role negotiation, health care commitment, trust, and time and money). Further, results of the study suggested that trust was correlated with improved understanding and promoted a relational bond between physician and patient. The authors proposed that in order to establish trust it was particularly important for the physician to attend to nonverbal cues, convey feelings of warmth and caring, be empathic, and be an active listener. Fiscella et al. suggested that “trust appears to be enhanced among patients who report that their physicians make an effort to understand their experiences, communicate clearly and completely, build partnerships, obtain referrals, and share power” (p. 1049).

**Empathy.** According to Reyes-Ortiz et al., (1997), the ability to communicate empathy is a key component of developing a therapeutic relationship, whether in the context of psychotherapy or a medical encounter. Empathy is defined as an individual’s capacity “to stand in someone’s shoes,” or in other words have a true sense of what another individual is experiencing. It is the ability to put oneself in the place of the …patient” (Reyes-Ortiz et al. p. 21). Within the physician-patient relationship, empathy represents a physician’s ability to emotionally connect with a patient and fully understand the patient’s experience, including feelings related to his or her illness experience. There is some research that suggests that medical providers hold a different balance between empathy and boundaries compared to mental health providers. (Ratanawongs a et al., 2008). Also, while the mental health literature has identified a number of interpersonal
behaviors that may communicate empathy to a client, research on what physician behaviors might be perceived as empathic by a patient is very limited (Thomas, 2004).

Rapport. Rapport within the physician-patient relationship has been defined as “the state of mutual trust and respect between the physician and the patient” (Reyes-Ortiz et al., 1997 p. 23). It is considered a vital component of the medical interview and is a reciprocal process between physician and patient. Once rapport is established, communication becomes more direct, open, and smoother (Matthew, Suchman, & Branch, 1993).

Psychological concepts such as transference, empathy, rapport, trust, and resistance can be found within the physician-patient relationship (Reyes-Ortiz et al., 1997). Many of the aforementioned concepts have been extensively investigated in psychotherapy research, but are becoming more common throughout the medical literature, in the field of health communication. A number of authors have advocated for the incorporation of psychotherapeutic techniques and theories into communication training and evaluation in the medical field (Roter, 2000). Friedman and DiMatteo (1982) maintained that caution should be used when applying social science to medical interactions, being careful not to “blur” conceptual definitions or the nature of the relationship. In other words, it is important for a physician to maintain appropriate boundaries and the integrity of the medical relationship, without ignoring the interpersonal aspects of the patient. Many authors have referred to this balance as the “art of medicine” (Epstein, 2000). According to Friedman and DiMatteo, in the optimal physician-patient relationship, psychological concepts are applied in a general, nonspecific manner. Further, the authors stated that the key to appropriate application of
psychological concepts to medical field is to “isolate those aspects of human behavior that are unique to medical issues” (p. 5).

In summary, research has shown that to create a therapeutic and healing relationship between physician and patient, it is important that the physician possess the skills to establish rapport and build trust. Further, these skills have been identified as crucial components of the clinical decision making process, as establishing rapport with a patient encourages accurate reporting of personal health histories (IOM, 2004). Clearly, the majority of physician-patient communication takes place within the context of the medical interview or encounter. According to Koch and Rumrill (1998), as is the case in virtually any health-care setting, “the manner in which the interview is conducted, therefore, has major implications for establishing effective working alliances and laying the groundwork for positive client outcomes” (p. 56. The therapeutic or working alliance has been shown to be one of the more powerful predictors of outcome in terms of psychological treatment and preliminary evidence has produced similar findings within other health care settings, including primary care (Fuertes et al., 2007). According to Scovorn (2001), the therapeutic aspects of the physician-patient relationship are often reflective of aspects of the working alliance in the therapist-client relationship.

Working Alliance

Beyond the simple application of psychological concepts such as open-ended questioning or empathic responses, Epstein (2000) maintained that to promote healing, the physician and patient must reach a deeper sense of “connectedness.” Keller and Carroll (1994) lent further support to this notion, suggesting that the physician should “join” the patient by conveying warmth and common experiences beyond small talk. A
common myth regarding interpersonal relationships is that the strongest relationships are those devoid of disagreements. Actually, the most effective relations are those in which individuals are able to effectively “work through” disagreements (Koch, Egbert, & Coeling, 2005). According to Matthews et al. (1993), a therapeutic physician-patient relationship is interactive and collaborative. For the purpose of this study, working alliance refers to the partnership or emotional bond that can develop between a patient and physician.

**Conceptualization**

The term working alliance was developed by Greenson (1967), who maintained that collaboration and agreement between the client and therapist in psychotherapy was perhaps one of the most vital aspects of treatment (Fuertes et al., 2007; Horvath & Symonds, 1991) Applying Bordin’s (1976) conceptualization of the working alliance to the physician-patient relationship, the working alliance would be defined by the following three components including (a) goals (physician-patient agreement on specific goals of treatment), (b) task (physician-patient agreement and cooperation on tasks related to treatment and goals), and (c) bond (the level of emotional bond between physician and patient, often characterized by liking and trust). Further, Bordin proposed that providers might place particular emphasis on one or more of the components (i.e., bond, tasks, goals), based on their approach to care. Theoretically, the three separate components are integrated, forming the alliance.

Mead and Bower (2002) conceptualized the alliance as “developing common therapeutic goals and enhancing the personal bond between doctor and patient” (p. 51). These attempts to connect with the patient can promote partnership building and lead to
more effective communication and subsequent outcomes (Roter, 2000). Based on personal experiences in medical practice, Matthews et al. (1993) identified a number of particular communication behaviors that were found to strengthen the alliance between themselves and their patients. The authors grouped these observable behaviors into two categories, (a) establishing rapport and (b) communicating understanding. In terms of establishing rapport, the following physician behaviors were identified: (a) allowing the patient to tell his or her whole story, (b) acknowledge the patient’s expression of emotion, (c) matching the patient’s body language, (d) matching the patient’s style of speech, (e) negotiating an agenda at the beginning of the encounter, and (f) negotiating a treatment plan and follow-up at the conclusion of the encounter. According to the authors, a physician communicated understanding largely through behaviors that represented active listening, such as rephrasing, clarifying and summarizing patient statements.

**Measurement**

In a review of the literature, Fuertes et al., (2007) found hundreds of articles within the mental health and medical fields which assessed the medical working alliance and found that most measured either emotional or cognitive aspects of the alliance, but rarely both. According to the authors, the medical working alliance is comprised of cognitive and emotional components and is best measured using an instrument that evaluates both domains. Within the psychotherapy context, Bordin (1976) incorporated both cognitive and emotional aspects in his conceptualization of the working alliance. The Working Alliance Inventory (WAI; Horvath & Greenberg, 1986, 1989), based on Bordin’s conceptualization, was designed to assess the level of working alliance within the psychotherapist-client relationship. The three components of Bordin’s
conceptualizations (i.e., task, goals, and bond) are reflected in the three subscales on the WAI. Although the WAI was originally developed for use within the context of psychotherapy, it has recently been modified for use in medical settings (Bickmore, Gruber, & Picard, 2005; Evon & Burns, 2004; Fuertes et al.). Additionally, a shortened version of the WAI, the Working Alliance Inventory-Short Form (WAI-SF; Tracey & Kokotovic, 1989), has been shown to be valid and reliable when used in medical settings, including primary care and cardiac rehabilitation settings (Evon & Burns; Fuertes et al.). In medical studies that have utilized the WAI-SF, the items are often adapted to fit the context of the setting (e.g., “doctor” used in place of “therapist”).

There is an extensive amount of psychotherapy research that suggests that the working alliance is perhaps the most reliable predictor of outcome (Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000; Fuertes et al., 2007; Horvath & Symonds, 1991; Koch & Rumrill, 1998). With preliminary evidence to suggest that the same may hold true with within physician-patient relationships, Roter (2000) and others (Zoppi & Epstein, 2002) encourage further study of the working alliance within the context of primary care. According to Ludden, Winickoff, and Steinberg (1979), physicians should be trained to use psychological concepts such as the working alliance while learning to avoid engaging in psychotherapy with patients.

According to Fuertes et al., the dynamics of the working alliance between physician and patient have “real value” and can substantially impact medical care. Although it has been assumed that communication skills are related to a working alliance between the physicians and patients, no prior studies were identified that directly investigated this relationship. According to Mead and Bower (2002), the working alliance
between physician and patient is a component of patient-centered care, which has become an important model of medical service delivery and care (Knebel, 2000).

Patient-Centered Care

The idea of patient-centered care was originally introduced in the 1960s in an attempt to express the importance of viewing each patient as “a unique human being.” Other terms which have been used to describe this approach to care have included consumer-centered care and relationship-centered care; however, patient-centered is most commonly used in the literature and is used in the current study (Knebel, 2000).

Although the idea of patient-centered care has been around for decades, there continues to be debate regarding how to define this approach to care (American Medical Association [AMA], 2006). The IOM has defined patient-centered care as “care that is respectful of and responsive to individual patient preference, needs, and values” (IOM, 2001, p. 3). This idea captures the importance of viewing each patient in the context of his or her individual characteristics and behaving in a way that is responsive to such characteristics. In 2001, the IOM released a report calling for changes in a number of health care arenas, including the implementation of patient-centered care. According to the IOM, the foundation of patient-centered care is based on patients’ participation in their care and physicians’ attempts to understand the patients within the context of their beliefs and values. Some authors have suggested that patient-centeredness exists on a continuum, where the other end reflects a physician-centered approach (AMA; Benbassat et al., 1998).

Based on a review of the literature, Mead and Bower (2002) identified five components of patient-centered care: (a) a biopsychosocial approach to care, (b) viewing
the patient as an individual, (c) shared decision-making and responsibility, (d) a therapeutic or working alliance between physician and patient, and (e) viewing the physician as an individual. Further, Epstein (2000) explained that patient-centered care was comprised of two “clusters” of physician behaviors, including (a) understanding and responding to patients’ experience of their illness, and (b) agreement on roles and treatment. Other themes have included (a) consideration of patients’ values, preferences, and needs, (b) coordinated care, (c) ensuring the comfort of patients, (d) consideration of emotional health, (e) inclusion of the patients’ system (e.g., family, friends) into care, (f) quality communication, (g) patient education, (h) understanding illness in the context of patient experience, (i) incorporation of evidence-based medicine, and (j) prevention (Knebel, 2000).

In a meta-analysis of 250 studies, Hall, Roter, and Katz (1988) examined indicators of patient-centered care and classified them into the five categories of, (a) information giving, (b) question asking, (c) partnership-building, (d) rapport-building, and (e) socioemotional talk. Within these categories, specific physician tasks included (a) setting agenda for visit, (b) managing time, (c) technical skills, (d) eliciting all concerns, (e) allowing patient to tell story, and (f) addressing biopsychosocial concerns, along with a variety of additional tasks. The majority of physician tasks that have been identified as indicators of patient-centered care will be examined in the present study.

Patient-Centered Communication

One of the primary ways in which a physician is able to apply a patient-centered care approach is through communication. As patient-centered care is a relatively broad term, communication is considered to be a “subset” of the concept. Within the literature,
this subset is typically labeled *patient-centered communication*. Lipkin, Quill, and Napodano (1984) suggested that in patient-centered communication, the patient is approached in a way that allows the patient to tell his or her own story. Patient-centered communication is integral to gathering accurate health histories, creating therapeutic medical relationships, and improving adherence to medical recommendations (IOM, 2004). Additionally, patient-centered communication “promotes trust and confidence, clarifies and characterizes the patient’s symptoms and concerns, generates and tests many hypotheses that may include biological and psychosocial dimensions of illness, and creates the basis for an ongoing relationship” (Lipkin et al., p. 277).

*Communication-vulnerable populations.* Patient-centered communication may be more important for some patients, compared to others (Epstein, 2000). This approach to communication may be especially important for “communication-vulnerable” populations, or “populations whose members have limited or no English proficiency, a culture that is not well understood by personnel in the organization and/or limited health literacy skills” (AMA, 2006, p. 25). Denying patient-centered communication to individuals within these populations increases the risk of communication gaps, misunderstandings, mistrust, non-adherence and an overall lower quality of care (AMA). Populations that have been identified as communication-vulnerable populations include those from cultures not well understood by an organization, those with limited English proficiency, and older adults (AMA; Adelman, Greene, & Charon, 1991; Ryan & Butler, 1996; Ryan et al., 1986).

*Patient-Centered Communication and Older Adults*
Although accurate, patient-centered communication of medical information is important with patients of all ages, Park, Morrell, and Shifren (1999) maintained that it is particularly important with older patients, due to the increased risk of miscommunication as well as their unique needs in terms of treatment interventions. As evident in the review of the literature, communication between older adults and physicians has been shown to be different from that of younger patients and physicians (Greene & Adelman, 2001; Haug, 1996a, 1996b; Hummert & Nussbaum, 2001; Reyes-Ortiz et al., 1997). As adults age, the risks and benefits of interventions may be different and health conditions tend to be more complex, compared to younger patients (National Academy on an Aging Society [NAAS], 1993). For example, according to the Merck Manuals Online Medical Library (2005), the typical older adult patient has an average of six disorders. For older adult patients, “multiple disorders complicate diagnosis and treatment, and the effects of the disorders are magnified by social disadvantage and poverty” (p. 2). Additionally, older adults often have varying degrees of functional impairment within one or more areas including vision, hearing, motor function, and mobility, resulting in much of which is related to their classification as communication-vulnerable (Park et al., 1999). It is vital for providers serving older adult patients to have quality diagnostic, analytic, and interpersonal skills to address potential challenges that might arise due to health conditions and/or functional impairment, (Merck)

Despite differences in physician-patient communication, older adults tend to be more satisfied with care (Hall & Dornan, 1990; Hall, Roter & Katz, 1988). In a meta-analysis of demographic variables and satisfaction, age had the largest effect size for satisfaction (.13, n = 75) while socioeconomic status had the second highest (.11, n = 59).
Although the majority of research has indicated that older adults are largely satisfied with overall medical care (Staniszewska & Ahmed, 1999), a few studies have suggested that communication between physicians and older adults is less than satisfactory (Hummert et al., 1994; Nussbaum & Coupland, 2004; Ryan & Butler, 1996). Due to the nature of the United States’ health care system, there are a number of barriers in achieving effective communication with patients, such as time-constraints and language barriers (Reyes-Ortiz, et al. 1997; Treadway, 1983). Ryan and Butler identified two specific communication challenges that exist for physicians serving older adults, including ageism and age-associated communication.

*Ageism.* Physicians tend to interact and approach treatment differently with older patients. Research has attributed differences to physicians’ negative perceptions of older patients (Reyes-Ortiz, et al. 1997). Negative perceptions or ageist attitudes (often termed “ageism” in the literature) are often present in medical encounters but may be quite subtle. Ageism has been defined as “negative attitudes and misconceptions about aging and aged people” (Reyes-Ortiz et al., p. 20). Ageism may reflect stereotypes about older adults in the areas of productivity, health, independence, sexuality, and competence (Hellbusch, Corbin, Thorson, & Stacy, 1994; Ryan & Butler, 1996; Ryan, Hummert, & Boich, 1995). For example, Adelman et al. (1990, 2001) found that many physicians discounted physical complaints of older patients, because they viewed such complaints as a normal part of the aging process. As a result, physicians were less likely to refer older adult patients for diagnostic testing or look into alternative etiology related to their complaints (Scott, Shiell, & King, 1996). Additionally, patients over age 65 were more likely to receive prescriptions for medications compared to younger patients (Scott et al.).
Stereotypes of older adults may also exist in physicians’ ratings of mental health. Older adults are often viewed as depressed, sad, or hopeless, when in fact there is evidence to suggest the contrary: Older adults appear to have fewer negative emotions compared to younger adults (Carstensen, Pasupathi, Mayer, & Nesselroade, 2000; Ryan et al., 1995).

Some researchers have suggested that ageism contributes to a lower quality of interactions between physicians and older adults. For instance, studies have shown that physicians were less patient, less attentive, less collaborative, less optimistic, and less respectful when interacting with older adults, compromising the quality of care that the patient receives (Haug, 1996b; Hummert & Nussbaum, 2001; Reyes-Ortiz et al., 1997). Further, physician interactions with older adult patients were more likely to be biomedical in nature (versus biopsychosocial), compared to younger adults (Roter et al., 1997). Subsequently, physicians were less likely to discuss psychosocial factors and prevention issues with older patients (Adelman et al., 1990; Greene & Adelman, 2001).

Ageist attitudes may significantly influence verbal communication with older adults during medical encounters. Physicians tend to speak slower, louder, and use simple language when they interact with older adults (Haug 1996a; Nussbaum & Coupland, 2004). This type of language accommodation is based on stereotypes of older adults and has been termed “elderspeak” (Kemper, 1994). According to Kemper, “such overaccommodations to stereotypical expectations about the communicative needs of older adults are often judged by older adults to be demeaning and disrespectful” (p.17). Many times, physicians who engage in overaccommodation may do so out of their misperception about older adults. They may view all older adults as being frail, cognitively impaired, and unable to communicate like other adults, which reflects ageist
attitudes (Kemper). It has been proposed that the use of this type of communication may actually serve to reinforce negative stereotypes and limit communicative opportunities of older adults, resulting in negative consequences with regards to health, functioning, and emotional satisfaction (Kemper; Ryan et al., 1995).

In contrast, other studies have failed to find significant differences between the ways in which physicians interact with older patients, compared to younger ones. Adelman and colleagues (1990) compared the interactions between physicians and older adult patients with those of physicians and younger adult patients and found no significant differences in number of compliments, negative verbalizations, open-ended questions, and length of time of interactions; however, mutual decision-making was found to be less likely to occur with older adult patients. Additionally, the level of support and quality of information provided to older adults was of poorer quality, compared to that of younger adults (Adelman et al.). In a conflicting study, Roter et al. (1988) suggested that older patients actually received more information as well as more total communication. In summary findings have been somewhat mixed in the area of communication between physicians and older adults, but it is clear that ageist attitudes often present a challenge for effective communication between physicians and their older patients. Other communication-based challenges with older adult patients include age-related communication and sensory deficits.

*Age-associated communication difficulties.* As individuals age, many experience changes in hearing abilities, vision, information processing, and memory. In addition, they often develop multiple chronic conditions and experience an increase in functional limitations (Adelman et al., 1990; Adelman et al., 1991; Ryan & Butler, 1996). There are
individual differences in the extent of communication difficulty: Communication changes range from minor among healthy older adults to major in adults with more severe sensory deficits and cognitive decline (Ryan, Giles, Barolucci, & Henwood, 1986).

Specific areas of communication that are potentially affected by the aging process include receptive communication (i.e., the ability to hear and understand language) and expressive communication (i.e., the ability to express oneself verbally; Ryan et al., 1986). Furthermore, many older adults tend to experience problems in cognitive tasks, such as retention and recall. The capacity to retain new information tends to peak in early and middle adulthood and begins to decline in old age (Bradley et al., 2001). Difficulties in memory can negatively impact medical interactions as patients may have trouble remembering questions that they had planned to ask, be less compliant with medication and other recommendations, and forget information and instructions provided by physicians. Some older adult patients attempt to accommodate for communication or cognitive challenges by bringing a companion (e.g., friend or family member) along to the medical visit. Although some researchers have suggested that older adult patients receive less attention when older adult patients were accompanied by a companion, a more recent randomized trial found no significant differences in physician attention to patient, number of topics raised by patients, discussion of diagnosis and treatment, and participatory decision-making (Shields et al., 2005).

In addition to physiological factors, older adults may experience changes in their overall communication abilities due to changes in social contacts, social roles, and opportunities for interpersonal interactions (Ryan & Butler, 1996; Ryan, Meredith, & MacLean, 1995). These changes may affect a patient’s ability to seek and obtain
information during interactions with his or her physician (Cegala, Post, & McClure, 2001). The combination of physiologically-based and socially-based communication difficulties provides a rationale for this populations’ classification as communication-vulnerable.

In summary, ageist attitudes and age-related communication difficulties may lead to faulty communication between physicians and their older patients. The risk for miscommunication is higher for older adults. Gaps in communication or misunderstandings can jeopardize the opportunity for a satisfying relationship between physicians and older adults. If communication is ineffective, the self-esteem, psychological well-being, emotional satisfaction, and health of the older adult may be compromised (NIA, 2008; Ryan & Butler, 1996; Ryan et al., 1995, 1986).

Although patient age was a primary variable of interest in this study, there are a number of other patient variables that have been identified as potential influences on the quality of physician-patient communication. The following section provides a brief review of other patient variables that may impact physician-patient communication.

Patient Variables

A review of the literature revealed that patient age is perhaps one of the most consistent sociodemographic variables in relation to physician-patient communication; however, there are a number of patient characteristics that have been shown to impact the effectiveness of physician-patient communication, including age, length of relationship with physician, health status, gender, education level, and socioeconomic status (Bertakis et al., 1993; Taylor, 2003).
Sex. Communication and social science research has consistently identified differences in the general communication styles of males and females (Gabbard-Alley, 1995; Hall et al., 1994). Researchers have suggested the same may hold true within the context of medical encounters. In a study by Hall and colleagues, verbal and non-verbal interactions of 50 internal medicine physicians and 100 patients were observed and analyzed. Results indicated that physicians tended to use more confirmatory utterances (e.g., mm-hmm, yeah, right) with female patients. Additionally, female patients received more nonverbal communication from physicians, with the exception of touch, which is more commonly used with male patients. In terms of information-giving, there were no significant differences found for amount or type of information (e.g., medical, psychosocial) given to male and female patients; however, in an earlier meta-analysis conducted by Hall et al. (1988), results indicated that female patients asked for and received more information. Women were also found to be more likely to self-disclose information and ask more questions during medical encounters (Gabbard-Alley), although conflicting research has suggested that no significant sex differences existed when it comes to question-asking (Beisecker & Beisecker, 1990).

In a review of research related to patient perceptions, Wilcox (1992) found that female patients were perceived to be less ill, yet tended to report more physical symptoms compared to males. Female patients were also more likely to be referred for tests and receive medication prescriptions. Further, a number of studies cited in the review suggested that physicians of both sexes found it easier to bring up and discuss affective and emotional issues with female patients. In a study by Hall et al. (1994), an interaction effect for physician sex and patient sex was found, suggesting that
communication between physicians and patients of the same sex were considered to be friendlier compared to communication between physicians and patients of the opposite sex. Past research regarding patient sex and satisfaction with physician care have been mixed (Hall & Dornan, 1990; Roter & Hall, 2004).

**Socioeconomic Status.** The socioeconomic status (SES; e.g., education level, income) of patients can influence the way in which they are perceived and treated by physicians. Using the standardized patient method (e.g., an individual is trained to play the role of a typical patient and then examined by physicians), Woo Ghorayeh, Lee, Sangha, and Richter, (2004) examined medical students’ perceptions of patient SES. First and second year medical students were shown one of two videos: Each video was designed to portray either a “low SES” patient or a “high SES” patient through differences in clothing, hygiene, accessories, and language. Of the 106 first year students and 99 second years students (N=205) who viewed the videos, the majority perceived that the low SES patient would be less compliant with medications, less likely to attend follow-up appointment, and would have minimal social support, compared to the high SES patient. The low SES patient was also considered to have poorer health and poorer prognosis. Additionally, results of the study suggested that if physicians had the choice, they would prefer to care for higher SES patients. This appeared to be especially true for physicians who come from high SES families (Woo et al.).

Interestingly, physicians’ perceptions of low SES patients may not be completely unfounded. Past research has shown that individuals with low SES tend to have more lifestyle risk factors compared to those with high SES (Woo et al., 2004). For example, van Ryn and Burke (2000) found that low SES patients were less likely to participate in
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Physical activity, therefore increasing their susceptibility to certain diseases. Additionally, patients with low SES may have lower compliance with medical recommendations and follow-up (van Ryn & Burke).

Research has demonstrated that physicians tend to provide less overall support to patients with low socioeconomic status (Taylor, 2003). In terms of information giving, results are mixed. According to Taylor, patients with low SES receive less information, whereas Hall, Roter, and Katz (1988) found that patients with higher levels of SES received more information from physicians. Additionally, Hall et al. suggested that higher SES patients received more accurate explanations from physicians compared to those with lower SES, including the use of language that was free of technical jargon. Additionally, patients with higher SES received a higher quality of care, both technically and interpersonally. For example, Roter et al. (1997) revealed that adults with higher SES were more likely to receive a biopsychosocial approach to care, whereas lower SES patients received more of a biomedical approach, with little attention paid to psychological and social factors.

Race and Ethnicity. The amount of research on patient ethnicity and race and physician-patient interactions is somewhat lacking, compared to other demographic variables. Hall and Dornon (1990) conducted a meta-analysis to examine previous research related to race and ethnicity within the physician-patient relationship. The authors of the analysis indicated that results of the studies were largely inconsistent, but they were able to find some significant results. The main findings of the meta-analysis were as follows: (a) race influenced physician perceptions of patient characteristics and abilities, (b) physicians provided less information and less support to cultural minorities
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(i.e., African-Americans, Hispanics), and (c) Caucasian patients reported more satisfaction with their care compared to other ethnic groups. In another study by Hall et al. (1988) Caucasian patients received a higher quality of care (technical and interpersonal) compared to African-American patients. Physicians were also found to be less likely to interact with African-American patients in a biopsychosocial manner (Roter et al., 1997).

van Ryn and Burke (2000) investigated patient race in relation to physician perceptions of patient abilities and personality, feelings of liking towards patients, and likelihood of patient behaviors. Results revealed that physicians perceived African-American patients more negatively compared to Caucasian patients on a number of dimensions, including intelligence, risk of substance abuse, compliance with medications, participation in an active lifestyle, and availability of social support. Additionally, physicians were less likely to report feelings of liking (e.g., a person who the physician could see him or herself being friends with) towards African-American patients.

Some studies have found a relationship between race/ethnicity and social class (Dornan, 1990; van Ryn & Burke, 2000), offering a possible explanation for similar findings for patients of low SES status. Both factors have been shown to be related to physician perception and treatment approach. Differences based on perception of patients may explain incongruencies in treatment that have been documented in previous studies. For example, patients who were viewed more negatively or were “less likeable” received less medical attention and follow-up. Such perceptions are often evident in interactions and as a result, patient satisfaction may be compromised (van Ryn & Burke).
Health Status. Generally, patients with poor health tend to report less satisfaction with medical care. There have been a number of hypotheses to explain this relationship. A few of these hypotheses will be reviewed in this section. Hypotheses have typically fallen into one of two categories, direct and mediation. In direct hypotheses, it is proposed that there is a direct relationship between patient health status and satisfaction, whereas in mediation hypotheses, it is assumed that there is one of more mediating variable that influences the relationship between patient health and satisfaction.

Hall et al. (1998) examined two explanatory models (i.e., direct and mediation) of the relationship between poor health and low satisfaction with medical care. Results supported the direct model. The authors proposed that sicker patients may “blame” the physician for aspects of their health, resulting in decreased satisfaction. Others have speculated that dissatisfaction with a physician negatively impacts a patient’s health status. Hall et al.’s study revealed that a relationship existed between patient health status and satisfaction; however, the direction of this relationship remains unclear.

Offering another explanation, Greenley, Young, and Schoenherr (1982) proposed the physician mediation hypotheses. This hypothesis suggests that the way in which physicians react to patients of poorer health status affects satisfaction. For example, sicker patients may be less “rewarding” for physicians, due to the challenges that they present. Subsequently, physicians may hold more negative perceptions of these patients, influencing their communication style and treatment approach.

Hall, Milburn, and Epstein (1993) offered another explanation for the relationship between poor health status and lower patient satisfaction. The authors suggested that it is the patient’s perception and experience with his or her health, which in turn, impacts
satisfaction with care. In a study of a HMO-based sample of older adults with chronic health conditions, health status was found to be a predictor of patient satisfaction; however, the interesting finding was that it was not the presence of disease, rather the psychological experience of the illness that affected satisfaction with medical care (Hall et al.).

Generally, past research has lent support to the physician mediation hypothesis in terms of patient health status. Physicians have reported that patients with poor health status often leave them feeling frustrated and they may even blame the patient for their poor health. Further, physicians reported more “liking” (i.e., interpersonal attraction) for patients with better health (Hall, Horgan, Stein, & Roter, 2002). According to Ekman and Friesen (1969), physicians may accidentally “leak” negative reactions through verbal or nonverbal cues. According to Hall et al. (1993), healthier patients receive higher quality and quantity of information from physicians. For example, physicians tend to use more social conversation with patients with better health status (Bertakis et al., 1993; Hall et al., 1988). This is an important finding in light of the fact that physicians’ use of social conversation appeared to be one of the most influential components of patient satisfaction (Hall et al., 1998). Instead of engaging in socially-based conversation, Bertakis et al. found that patients with poor physical health spent the majority of the medical visit discussing ongoing treatment with physicians. The authors speculated that when working with sicker patients, a physician may feel more pressure to adhere to a medically-based agenda, minimizing time for small talk.

In summary, patient health status may have an impact on physician perceptions, interactions, and treatment decisions regarding their patients (Scott, Shiell, & King,
The length of the physician-patient relationship has also been shown to impact physician perceptions and behaviors towards patients (Haug, 1996a, Haug, 1996b).

**Length of Relationship.** According to Haug (1996a) physician-patient communication patterns may differ, based on the amount of time the physician and patient have known one another. Typically, the more appointments that a patient has had with a physician, the better they (both the physician and the patient) become at effectively obtaining information from one another. Additionally, a physician who has known a patient for a number of years tends to be more aware of what type of knowledge and participation level a patient desires, whereas in the case of newer patients, a physician is often forced to rely on subtle cues to assess desires. In a study of physician behavior and trust, Thom (2001) examined the relationship between length of physician-patient relationship (e.g., length of relationship ≤ 2 years, and length of relationship > 2 years) and behaviors that predicted trust. Patients who had been visiting a physician for two years or less were more concerned with the physician’s ability to demonstrate technical competency compared to those who had known their physician for more than two years. Additionally, patients with shorter relationships with physicians were more trusting when the physician provided a more detailed explanations. For both groups, the physician behavior of “being comforting and caring” was found to have the highest correlation to trust within the relationship (Thom). A physician-patient relationship that promotes a feelings of trust and comfort is often termed patient-centered care. The following section will provide a discussion of how the patient-centered model of care is used in medical training programs.
Patient-Centered Communication and Medical Education

A patient-centered framework for communication is widely adhered to in medical practice and is reflected in professional standards and guidelines (AMA, 2006; Epstein, 2000). The AMA not only endorses patient-centered communication as an optimal model of communication, but also considers it to be an ethical obligation (AMA). According to Roter (2000), the challenge thus far has been transforming theoretical aspects of patient-centered care to components that can be defined, observed, and measured. The medical field and its governing bodies have begun this process through the development of initiatives and programming aimed at defining and improving aspects of patient-centered care, including physician-patient communication.

In 1999, representatives from a number of professional medical organizations and training programs met in Kalamazoo, Michigan to address the need for improved physician-patient communication (Brunett et al., 2001). The goals of this meeting were: (a) to reach agreement in terms of a communication model that would be appropriate across several contexts, (b) to identify examples of communication skills related to the chosen model, and (c) to ensure that the results of the group’s decisions would be empirically supported and applicable to medical training and evaluation. The group reviewed previous training models, guidelines, and consensus statements from which they identified specific “communication tasks.” In order for a particular task to be included in what came to be termed *The Kalamazoo Consensus Statement* (Brunett et al.) all meeting participants were required to concur that the task was an essential component of physician-patient communication. This effort produced a consensus statement that outlined a coherent, synthesized framework of communication within medical encounters.
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(Brunett et al.). The framework was comprised of seven essential elements, outlined in Table 1.

Table 1

*Communication and Interpersonal Skills:*

*Kalamazoo Consensus Statement*

<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Build a relationship</td>
<td>Using a patient-centered approach to care, become aware of factors that may influence relationship, approaching relationship as a partnership.</td>
</tr>
<tr>
<td>Open the discussion</td>
<td>Allow patient to tell their story in its entirety and elicit all concerns while maintaining personal connection with the patient.</td>
</tr>
<tr>
<td>Gather information</td>
<td>Use verbal and non-verbal communication skills to obtain necessary information.</td>
</tr>
<tr>
<td>Understand the patient’s perspective</td>
<td>Conceptualize the patient within the context of their system (e.g., values, culture, gender, age, beliefs).</td>
</tr>
<tr>
<td>Share information</td>
<td>Using language that the patient can understand, share relevant treatment information and encourage questions from the patient to ensure understanding.</td>
</tr>
</tbody>
</table>
Reach agreement on problems and plans

Encourage patient participation in decision-making to the extent he or she desires and assess the patient’s ability to follow the plan:

Resources and support systems should be identified to increase the likelihood of compliance.

Provide closure

Elicit any further questions or concerns, summarize treatment plan, and address follow-up.


Subsequent research has utilized the tasks from the Kalamazoo Consensus Statement as a foundation for creating objectives for training and methods of evaluation (Duffy, Gordon, Whelan, Cole-Kelly, & Frankel, 2004). The Kalamazoo communication tasks are often described in the context of the communication competencies identified by the Accreditation Council for Graduate Medical Education (ACGME). The ACGME is the primary accreditation body for medical residency programs. In 2000, the ACGME launched an initiative (i.e., ACGME Outcome Project) intended to increase emphasis on competency-based learning objectives as well as educational outcome assessment. The general competencies are comprised of six main areas: (a) patient care, (b) medical knowledge, (c) practice-based learning and improvement, (d) interpersonal and communication skills, (e) professionalism, and (f) systems-based practice (ACGME Outcome Project, 2007). For the purpose of this study, the competency termed
“interpersonal and personal communication skills” will be of primary focus, as this competency is most relevant to the area of Health Psychology and the concept of working alliance. According to the ACGME, in order to meet to requirements of this competency, residents must be able to:

(a) create and sustain a therapeutic and ethically sound relationship with patients;
(b) use effective listening skills and elicit and provide information using effective nonverbal, explanatory, questioning, and writing skills, and (c) work effectively with others as a member or leader of a health care team (p. 2).

One goal of the ACGME Outcome Project is to increase emphasis on educational outcome assessment in relation to accreditation. Medical training programs were faced with the challenge of incorporating ACGME competencies into the curriculum, developing effective training models and methods, evaluating the skills of residents, and providing outcome data (ACGME, 2007). As a result, medical educators worked to design methods of training and evaluation for each competency. In terms of the communication and interpersonal skills competency, evaluation methods have included oral examinations, observation, clinical examinations, case logs, patient surveys, standardized patient examinations (i.e., individuals trained to act as patients are examined by physician), and a variety of other methods. Additionally, a number of assessment instruments were created in an attempt to provide an accurate assessment of communication skills. The ACGME Website provides a list of assessments that have been created and used by training programs. At this time, the Website provides 11 communication assessment tools that have been used by medical education programs to evaluate the communication and interpersonal skills competency. Also, in a review of
communication competency assessments, Schirmer et al. (2005) identified 15 instruments (e.g., patient report, standardized patient exams, checklists, etc.); however research has failed to identify a “gold standard” in terms of evaluating physician-patient communication. Some of the more commonly used instruments are based on the communication models discussed earlier in the review, including the Calgary-Cambridge Observation Guide (Kurtz, Silverman, Benson, & Draper, 2003), Common Ground Rating Form (Lang, McCord, Hartville, & Anderson, 2004), and Kalamazoo Essential Elements: The Communication Checklist (Makoul, 2001a). The Kalamazoo Essential Elements served as the theoretical grounding for the training and evaluation model that will be examined in this study. This model was chosen for use at the BMH-FMR because of its good fit with the ACGME communication competency (Duffy et al., 2004; Rider et al., 2007).

Training and Evaluation

A number of models of physician-patient communication have been developed to facilitate training and evaluation in medical education (Schirmer et al., 2005). The following review examines two approaches to communication training and evaluation, the (a) “core” and (b) “task” approach. The core approach utilizes fundamental categories of communication skills, which in turn, serve as the basis for evaluation. From this approach, physicians are evaluated using global ratings of core areas and a few specific tasks. The second approach, the “task” approach, identifies specific communications tasks, or behaviors, considered to be integral to physician-patient communication. In terms of evaluation in the task approach, all tasks are expected to be carried out fully during a medical encounter. The following is a discussion of some models that are based
on these two approaches. The first model to be reviewed, the Common Ground model, follows the core approach. The second two models that are reviewed adhere to the task approach and are two of the most commonly used models: The SEGUE (Makoul, 2001b) and the Kalamazoo Essential Elements model (Makoul, 2001a). All of the following models are based on a patient-centered framework of communication.

**Common Ground.** The Common Ground model, although based on the tasks identified in two separate Consensus Statements (i.e., Toronto and Kalamazoo), takes a different approach to communication within a patient-centered interview. Components of this model include 13 communication tasks along with four core areas (e.g., rapport, information management, eliciting all agenda items, and active listening for full understanding of ideas, concerns, and expectations). The core areas are the focus of this model, allowing more flexibility and room for interpretation in terms of how one can meet requirements for each area. The authors maintained that studies of the model have supported the “premise that there is a set of generic or core communication skills that have applicability to a wide range of everyday encounters” (Lang et al., 2004, p. 194). The Common Ground model has been used in teaching and has been found to be a reliable and valid approach to communication skill assessment (Lang et al.; Schirmer et al., 2005).

**SEGUE.** The task-based model, SEGUE, is an acronym for the communication tasks included in the model. The model proposes that the following tasks should be completed to accomplish optimal flow during the medical encounter: (a) set the stage, (b) elicit information, (c) give information, (d) understand the patient’s perspective, and (e) end the encounter. According to Makoul (2001b), the SEGUE model allows the
physician to be flexible within the framework, carrying out tasks in a manner consistent with his or her style. This model provides a framework for communication skills training in addition to its use as a teaching tool. For example, at Northwestern University Medical School, medical students study one section of the SEGUE model each week. Additionally, students attend seminar groups with faculty in which discussion is centered on implementation of the model into practice (Makoul, 1998). The SEGUE model is also employed as an assessment method in medical education training to provide feedback to trainees regarding their communication skills. A checklist has been developed as a tool for medical educators. The checklist has a total of 32 communication tasks divided into the five categories. The SEGUE model is used frequently for both teaching and evaluation. In a survey conducted by the Association of American Medical Colleges (AAMC, 1999), results from 95 medical schools indicated that 26 of them used the SEGUE framework (e.g., 10 for teaching and 16 for evaluation).

*Kalamazoo Essential Elements.* Another task-based model is the Kalamazoo Essential Elements model. This model contains seven essential elements of physician-patient communications, with 23 sub-tasks. The seven elements are: (a) builds a relationship, (b) opens the discussion, (c) gathers information, and (d) understands the patient’s perspective, (e) shares information, (f) reaches agreement, and (g) provides closure. Among the teaching/evaluation models, the Kalamazoo Essential Elements: Communication Checklist received some of the highest ratings in terms of content, psychometric properties, and usability, according to a review by Schirmer et al. (2005). This model served as the basis for assessment in the current study as it was one of the most commonly accepted models among the medical training community and provided a
good fit with the ACGME communication and interpersonal competency. The instrument used for the evaluation of physician communication at the BMH-FMR will be discussed in greater detail later in the review.

**Communication Training**

It has been estimated that during his or her career, a physician will conduct between 160,000 and 300,000 medical interviews (Rider et al., 2006). Although the interpersonal skills of a physician account for only a portion of a physician's overall competence, research has shown that most patients judge the quality of care based on criteria that are relationship-focused and irrelevant to technical skill (Taylor, 2003). Although a number of service organizations are committed to providing quality customer service by training employees in interpersonal skills, “it is difficult to imagine a service in which these skills are more important than medical service” (Bendapudi et al., 2006, p. 341). The responsibility of training providers in interpersonally effective care lies largely on the shoulders of medical schools, residency training programs, and continuing education programs. The field of medical education has made some progress in improving general communication training, in terms of incorporating competency-based skills and evaluation into the curriculum (Smith et al., 1998).

Statistics have suggested that the majority of physician-patient communication skills are taught during the first half of medical school. In 2004, a committee designated by the IOM investigated content in the curricula of 126 medical schools and found that the mean number of hours dedicated to teaching communication skills was 51 during the first year, 27 during the second, 15 during the third, and 3 during the fourth. This finding highlights the importance of including communication training in residency programs in
addition to direct experience communicating with patients. Fortunately, research has been promising in terms of retention of communication skills. Effects of physician-communication training have been shown to be maintained over time (IOM, 2004).

Few of the research studies offered specific guidance to physicians in terms of how to apply communications skills with real patients. Researchers have made preliminary progress towards the development of evidence-based guidelines for training physicians in patient-centered interviewing skills (Smith et al., 2000). Smith et al. proposed that residents should be trained based on behaviorally-defined, step-by-step, interview guidelines. Taylor (2003) supported the implementation of interview guidelines into training, recommending that communication training should center on skills that are easily learned and easily applied in a medical interaction. This includes simple pleasantries, such as greeting the patient, using his or her name, making small talk, etc. These behaviors portray a sense of warmth and build rapport (Taylor). Additionally, communication training should focus on the ability to effectively “read” verbal and non-verbal behaviors of patients. Further, physicians should learn how to use both verbal and non-verbal communication effectively. In a study of nonverbal patient behaviors, DiMatteo and Taranta (1979) found that physicians who were able to effectively read nonverbal behavior were better able to meet their patients’ interpersonal needs. Over the last decade, physician training has begun to emphasize patient-centered interviewing, encouraging such questions as “What else?” in an effort to elicit the patient’s perspectives and incorporate his or her value system (Bendapudi et al., 2006).

From a broader perspective of communication training, researchers have begun to look beyond communication between physician and patients, citing the importance of
including training related to communication between residents and teachers as well as the
development of self-awareness. Smith et al. (2000) suggested that this can be
accomplished through use of a multi-level approach to communication training, including
the use of didactic training, direct observation, group work (e.g., Balint groups), reading
material, core learning experience, inpatient rounds, and video/audio tape reviews (Smith
et al.; IOM, 2004). Balint group is a term to describe a process in which a group of
physician, their peers, and a trained group facilitator discuss and analyze their
interactions with patients, with particular attention to challenging physician-patient
relationships (sometimes termed “difficult” patients within the literature). The primary
goal of the group is to assist the physicians to try and view patients in a different way to
avoid negative outcome. Additionally, physicians can learn from each others’
experiences (Brock & Johnson, 1999; Ludden, Winickoff, & Steinberg, 1979). In terms
of curriculum, communication courses are found in most medical education programs,
which are often accompanied by presentations by faculty or guest lectures on specific
communication-based topics. Following coursework and guidance in basic
communication skills in medical school and residency programs, residents are then
exposed to direct, supervised contact with patients, combined with specific feedback
from faculty. Typically, interactions are either audio- or video recorded so that the
resident and faculty member can view them simultaneously to facilitate immediate
processing and feedback (Taylor, 2003). This method of training allows residents to gain
practice and feedback using communication skills with a variety of real patients,
theoretically improving their ability to assess the communication needs of individuals and
respond effectively.
Additionally, due to the diverse and changing demographics of the United States, it has been suggested that communication training should incorporate cultural sensitivity and competence (Wroth & Pathman, 2006). Majumdar, Browne, Roberts, and Carpio (2004) revealed that cultural sensitivity training with medical providers led to significant improvements in overall cultural awareness, understanding of differences, and consideration of social circumstances. This type of training could increase a physicians’ repertoire in terms of his or her ability to work with patients from a variety of sociodemographic backgrounds, including older adults, one of the fastest-growing groups.

*Communication Training and Older Adults*

As discussed earlier in the review, ageist attitudes may lead to negative perceptions of older adults. Not only can this present a barrier in communication, but it may also discourage physicians from working with older adult patients. Additionally, there appears to be a lack of interest in working with and direct experience working with older adult patients (National Academy on an Aging Society, 1993; Warshaw & Bragg, 2003). This lack of desire to work with older adults seems to be reflected in medical education. For example, the National Academy on an Aging Society (NAAS, 1993) reported that among the 145 United States medical schools that had a geriatrics department, only three had mandatory rotations in geriatrics. Even more disconcerting was the finding that less than 3% of all medical students take at least one geriatric course (NAAS). Experts have suggested that the best way to address this issue is through physician training in gerontological issues and direct experience in communicating with older adults (Luk-Jones & Chiriboga, 1994; Pacala, Boult, Bland, & O’Brien, 1995). In
order to address beliefs about older adults, Reyes-Ortiz et al. (1997) recommended that medical education curriculum include specific guidance on how to effectively communicate with older adult patients in the form of didactic information and reading material. In addition, the authors suggested that trainees discuss previous experiences with older adults as well as meet healthy, well-functioning older adults to contradict the commonly held belief that older adults are ill, fragile, and depressed. A number of medical education programs have implemented some type of programming in which trainees gain experience with older adults though direct contact. For example, The University of Missouri-Kansas City School of Medicine implemented a “mentors-on-aging” program in which medical students met with “mentors” (i.e., active residents of a retirement community) for a minimum of 14 hours over a 12 month span. The mentors and students explored each other’s past and current life experiences. Results of a program evaluation revealed that following the program, students held more positive attitudes toward aging and older adults (Shue, McNeley, & Arnold, 2005). Within the context of medical training, Reyes-Ortiz et al. suggested communication tasks should be different when working with an older patient, particularly in terms of linguistics and speech (Reyes-Ortiz et al.).

In summary, there have been a number of communication-based educational interventions designed to target physicians-in-training as well as practicing physicians. Many of these interventions present generic frameworks for communication with patients across developmental levels, rather than addressing the communication needs of specific populations (e.g., Hispanics, patients with low SES, older adults). Communication with
older adults presents unique challenges as their communication needs differ from those of individuals at other developmental levels (Hummert & Nussbaum, 2001).

Although research has shown that geriatric/gerontological training is currently being incorporated into medical training programs, much of this training is elective in nature (Luk-Jones & Chiriboga, 1994; Pacala et al., 1995). According to Luk-Jones and Chiriboga, the status of geriatrics/gerontology within medical training, combined with the variability of content of geriatric/gerontology curricula, has led to a gap between the supply and the demand for physicians competent in quality care of older adults. As a result of shifting demographics, there is a need to increase physicians’ level of competence in working with older patients (Mayfield & Tryon, 1996). Additionally, it is of interest whether or not these skills are effectively taught and monitored during medical training, which will be discussed in the next section.

Evaluation of Communication Training

Earlier in the review, the tasks approach to communication training and evaluation was explained. One model that followed the task approach is the Kalamazoo Essential Elements model. One instrument that was developed based on this model, the Kalamazoo Essential Elements: Communication Checklist, has been shown to have good psychometric properties (Schirmer et al., 2005). The instrument used to evaluate physician communication behavior in the present study (i.e., Behavioral Science Tape Review Checklist [BSTRC]) is based upon the Kalamazoo model and Communication Checklist. This instrument was created by the faculty at the BMH-FMR in order to best meet their needs. For the present study, the BSTRC was modified to a checklist format to allow ease of use for behavioral observers.
Frequency counts and checklists are relatively easy to use and have been found to be less subjective compared to rating scales (Boon & Stewart, 1998). These methods have been commonly used to rate performance within medical settings. Past research has demonstrated the use of checklists in assessing patient care skills, interpersonal skills, technical skills, and self-assessment (ACGME, 2007). According to a report from the ACGME and the American Board of Medical Specialties (ABMS), reliability of checklists typically falls within the 0.7 to 0.8 range, when used by trained observers. Further, research has demonstrated that checklists or frequency counts are more appropriate for observers with no medical background, compared to rating scales that require some level of experience, and are commonly used methods of measurement in behavioral assessment.

*Behavioral Assessment via Observation*

In general, behaviorally-based research and observational methods are grounded in behavioral psychology, where the primary focus is behavior itself, in lieu of psychological constructs (Heppner, Kivlighan, & Wampold, 1999). The use of observational methods in research holds a variety of benefits over other methods. First of all, participants are able to be observed in the natural environment, adding to the validity of the measurement. Additionally, observational methods allow researchers to measure the behavior(s) of interest without the personal bias often found when using self-report methods (Heppner et al.). This self-report bias can be found even with the use of “experts”. For example, when experts use a scale format (e.g., Likert), some level of judgment is used and therefore introduces potential subjective bias.
Levels of measurement. Sackett, Ruppenthal, and Gluck (1978) identified two approaches to observational research. In the molecular approach, the focus is on specific, detailed behaviors in an attempt to describe the actual behavior as closely as possible. Even this approach will not capture “exactly” what occurs, as some details are lost through the observation and recording process. Molecular behaviors represent a single, observable behavior, to the point that they would lose meaning if they were broken down any further (Suen & Ary, 1989). Miller (1987) described this approach as “relatively complete, specific, and non-evaluative” (p. 84). In a second approach to observation, the molar approach, a group or category of behavior is examined (e.g., group comprised of molecular behaviors). The molar approach tends to be more global and interpretive (Miller). The molecular and molar approaches have been conceptualized as existing on separate ends of a continuum, with varying degrees of behavior specificity in between. In order to determine the appropriate approach, a researcher should consider both the purpose of the research as well as the feasibility of measurement (e.g., self-report, observation, both). In some cases, it may be useful to combine aspects of the two approaches. According to Miller, combining molecular and molar approaches may be particularly useful when the behavior is videotaped, as there are less constraints compared to live observation.

Training. Training is one of the key components in behavioral observation methods. The way in which material is presented can impact the effectiveness of observer training (Woehr & Huffcutt, 1994). It is not necessary that observers have specific knowledge of the theoretical basis of the behaviors at hand; however it is imperative that observers learn to identify and classify behaviors in a reliable manner. According to
Woehr and Huffcutt, behavioral observation training includes methodology “that focuses on the observation or recording of behavioral events as opposed to information integration and evaluation” (p. 193). The specific procedures for observer training in this study will be described in Chapter 3.

It has been questioned whether communication was in fact a “skill” that could be taught versus a “way of being” (Zoppi & Epstein, 2002). In their review, Zoppi and Epstein discussed previous works that had proposed that communication is comprised of observable behaviors or tasks, whereas a relationship is characterized by less observable factors, such as caring and compassion. The authors indicated that when feelings and thoughts are “reduced to ‘skills’ and the complex, multilayered interaction between people reduced to ‘behaviors,’ greater emphasis is placed on the seen than on the unseen” (p. 320). As a result, medical education training may fail to foster genuine relationships and working alliances between physician and their patients. The authors acknowledged that while many medical education programs have been effective in teaching communication skills, skill-based training may not necessarily result in a working relationship between the physician and patient. The question of whether or not quality communication skills (as measured by observable behaviors) are actually related to the patient’s perception of the working alliance within physician-patient relationships is a focus of the current study.
Chapter 3

METHODOLOGY

Participants

The current study included adult patients \((N=41)\) from the Ball Memorial Hospital Family Medicine Residency (BMH-FMR) in Muncie, Indiana. The FMR is a residency-based clinic affiliated with a 350+ bed teaching hospital in Muncie, Indiana. The patient population is diverse in terms of patient age and race. In terms of SES, 2009 estimates for the clinic indicated that 47% of patients were Medicaid eligible, 10% were non-insured, and the remainder (43%) were privately insured (B. Blake, October 26, 2009). In order to be included in the current study, a patient had to (a) be a current patient of the FMR (b) be 18 years of age or older, (c) be female, (d) have had at least one appointment with her physician within the past year, and (e) consent to participate in the study. Participants were divided into two age groups for the purpose of comparison. The two groups were (a) adults (18-64) \((N = 29)\) and (b) older adults (65 and older) \((N = 12)\). Data was collected at the FMR for nearly 12 months. During that time 64 patients were identified as eligible for the study. Of the 64 targeted participants, 2 were excluded because they were new patients and therefore did not meet the inclusion criteria. Two others were excluded due to problems with videorecording (e.g., tape was not started on time, tape malfunction). Nine of the patients were excluded at the discretion of the researcher, based on the nature of the encounter with the physician (e.g., physical exam involved disrobing). One potential participant was excluded at the researcher’s discretion due to cognitive deficits.
Nine people declined to participate in the study. In total, 41 participants were included in the data analysis. The targeted number of participants for the study was 52, based on a power analysis; however, as a function of the stringent inclusion and exclusion criteria, researchers were able to obtain a sample size of 29 participants from the 18-64 age group, but only 12 from the 65 and over group. See Figure 1 for a description of the process of obtaining older adults for the study. Data collection was concluded at 12 months. As noted previously, the sample included only female patients ($n = 41$).

![Flow chart for recruitment of older adult group.](image)
Each of the participants was seen by one of ten family medicine physicians (7 males, 3 females). All physicians in the study were in their third year of residency training. Based on the research, it appears that patient sex can influence physician-patient communication. In order to reduce variability as a result of patient sex, only female patients were examined in this study. Physicians used in the study were 10 family medicine physicians in their third year of residency training (7 males, 3 females). All residents at the FMR receive approximately 20 hours of didactic training in the general area of physician-patient communication, five hours of individualized feedback regarding his or her observed interactions with patients, 20 hours of Balint group, and 20 rotation hours in geriatrics (L. Daniel, personal communication, October 1, 2007). A Balint group is a self-exploration group for physicians. Originally developed in the 1950s by Michael and Enid Balint the group process is designed to help physicians explore their personal interactions. At the FMR, Balint groups include eight residents from the same class. Typically a resident will present one patient without the assistance of any charts or notes. The role of the group is to ask questions, discuss, and provide feedback regarding the relational/interpersonal aspects of the case, considering both the physician and patient perspective (Brock & Johnson, 1999; L. Daniel, personal communication, October 1, 2007). Third year residents were chosen for this study as they have typically been involved in a number of Balint groups, were more likely to have had experience with a range of patients, including different age groups, and had more exposure to the communication model used at the BMH-FMR. Additionally, limiting the group to only third-year residents helped to control for any potential confounding influence of differing levels of experience or education.
Recruitment of Participants

Eligibility for the study was based on the aforementioned criteria. Each morning that the research was being conducted, an administrative assistant at the FMR screened all female patients with appointments on that day, using the inclusion and exclusion criteria. A daily report was generated, identifying the name and appointment time of eligible participants. The report was then reviewed by either the primary investigator or research assistant and allowed the researchers to anticipate the arrival of potential participants and approach them prior to their appointment.

Once a potential participant was identified and approached, the researcher or research assistant introduced herself and the study. The researcher provided the following; (a) an explanation of how the individual was identified for potential participation, (b) information about what participation would entail, and (c) information about rights and procedures for voluntary participation. If the patient agreed to participate, the researcher or research assistant obtained consent and asked the patient to read and sign a consent form and a HIPAA release of information. Next, the participant was asked to begin completing the WAI-SF while she was in the waiting room. In a few cases, participants were not able to fully complete the WAI-SF in the waiting room. In these situations, the researcher or research assistant asked the participant to take the WAI-SF into the exam room and finish completing it after the nurse had obtained vitals signs. In such cases, the researcher or research assistant typically waited at the nurses’ station and would check in on the participant’s progress and then take the WAI once she was finished.
Demographic Information

Age. There were 29 (70%) female patients in the “adult” group (i.e., 18-64) and 12 (30%) female patients in the “older adult” group. Ages of the participants in the adult group ranged from 19 to 64. For the older adult group, ages ranged from 65 to 88. See Table 2 for means, standard deviations and range for each age group and the total sample.

Race. Race consisted of 3 categories: “White,” “African American,” and “unspecified.” This information was obtained from the participants’ electronic medical record. When patients register at the FMR, they have the option of checking a racial category or marking “unspecified” if they are unsure or do not wish to disclose that information. As noted in Table 2, 22 (54%) of the participants identified themselves as “White,” 5 (12%) identified as “African American,” and 14 (34%) were “unspecified.”

Number of previous visits. The participants’ electronic medical records were used to determine the number of previous visits they had with the physician before the videorecorded appointment. Data revealed that 9 (22%) of the participants had only visited the physician one time, 4 (10%) participants had two previous visits, 5 (12%) participants had 3 previous visits, 8 (19%) participants had four previous visits, 3 (7%) participants had five previous visits, 1 (2%) participant had six previous visits, 3 (7%) participants had seven previous visits, 2 (5%) participants had eight previous visits, 2 (5%) participants had nine previous visits, and 4 (10%) participants had 10 or more previous visits with the physician. Means and standard deviations can be found in Table 2. In terms of group differences, the mean for the adult group ($M = 4.69$) was slightly higher than the older adult group ($M= 4.33$). A t-test revealed that the difference was not significant, $[t = .30, p >.05]$. 


**Number of Chronic Diseases.** The number of chronic diseases for each participant was gathered from the electronic medical record, using the checklist described later in this chapter. In terms of the number of chronic diseases, 13 (31%) of the participants did not have any chronic diseases listed in their medical record, 14 (34%) participants had one chronic disease, 9 (22%) had two chronic diseases, 2 (5%) had three chronic diseases, 1 (2%) had four chronic diseases, 1 (2%) had five chronic diseases, and 1 (2%) had seven chronic illnesses. As noted in Table 2, the mean number of chronic illnesses was 1.32. The mean number of chronic illnesses was higher for older adults ($M = 2.5$) compared to the adults ($M = .83$) and a t-test revealed that this difference was significant, $[t=-3.83, p .01]$.

**Table 2**

**Demographic Information**

<table>
<thead>
<tr>
<th>Demographic variables</th>
<th>Adults</th>
<th>Older adults</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$n$</td>
<td>$%$</td>
<td>$n$</td>
</tr>
<tr>
<td>Age (range = 19-88)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>37</td>
<td>—</td>
<td>79</td>
</tr>
<tr>
<td>SD</td>
<td>12.3</td>
<td>—</td>
<td>6.8</td>
</tr>
<tr>
<td>Range</td>
<td>19-64</td>
<td>—</td>
<td>65-88</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>16</td>
<td>55.2</td>
<td>6</td>
</tr>
<tr>
<td>African American</td>
<td>4</td>
<td>13.8</td>
<td>1</td>
</tr>
</tbody>
</table>
Unspecified\textsuperscript{a} & 9 & 31.0 & 5 & 41.7 & 14 & 34.1 \\
Visits with physician & & & & & & \\
Mean & 4.69 & — & 4.25 & — & 4.58 & — \\
SD & 3.75 & — & 2.60 & — & 3.46 & — \\
Range & 1-16 & — & 1-9 & — & 1-16 & — \\
Chronic Diseases & & & & & & \\
Mean & .83 & — & 2.50 & — & 1.32 & — \\
SD & .93 & — & 1.88 & — & 1.47 & — \\
Range & 0-4 & — & 0-7 & — & 0-7 & — \\
\textsuperscript{a} Participants that elected not to report their race upon admission to the clinic.

Procedures

\textit{Videorecording}

After obtaining informed consent and administering the WAI-SF, the researcher or research assistant obtained the number of the exam room. Once the exam room number was known, the researcher or research assistant was able to begin videorecording the physician-patient interaction. Each in-room camera is installed in a corner of the exam room, but all cameras are controlled from a central location so that there is no direct interference to the encounter itself. Once the encounter was complete, the researcher or research assistant stopped the recording, removed the videotape, labeled it with an identification number, and placed the video in a locked cabinet in the office of the behavioral scientist at the FMR.

\textit{Observation}
In order to assess the level of adherence to the communication model used at the FMR, indirect behavioral observation techniques (i.e., videorecording versus live observation) were used. Trained observers (research assistants) viewed the previously recorded videotapes to observe and record data. In order to observe the videotapes, the research assistants removed their designated video(s) (based on assigned ID numbers) from the file cabinet and viewed the video in a conference room located within the FMR facility and they recorded behaviors using the BSTRC. Upon completion of the observation, the researcher returned the video to the cabinet and placed the completed BSTRC into the packet labeled with the appropriate participant ID number.

Measurement

Demographic Information

Demographic information including age, race, previous number of visits with current physician, and number of chronic diseases was obtained from the electronic medical records (EMR) from the Family Medicine Residency. Patient age and race was obtained from the demographic information listed in the EMR. A staff member from FMR conducted each patient search and verbally reported the information to the primary researcher, who then recorded it on a written demographic table. The information was then entered into SPSS by the primary researcher. In order to calculate the number of visits to a physician within the previous year, each patient’s appointment history was reviewed by the same FMR staff member and all appointments labeled as ‘exam’ or ‘follow-up’ were counted and verbally reported to the primary researcher, who then recorded the information in the same way as age and race. In order to record the number of chronic diseases, a checklist was used (see appendix A). The checklist was developed
by the primary researcher based on a 2008 report of the most common chronic diseases in Indiana (CDC, 2008). For each participant, the list of active diagnoses located in the EMR was reviewed by a FMR staff member (the same staff member conducted all demographic searches). The staff member read the diagnosis list aloud to the primary researcher who determined whether a diagnosis fit into any of the categories on the checklist and placed a checkmark beside any corresponding conditions. The primary researcher then reviewed the completed checklists and the total number of chronic diseases was calculated for each participant and entered into SPSS.

*Behavioral Science Tape Review Checklist (Appendix B)*

In the present study, physician-patient interactions were observed and recorded using the BSTRC, a behavioral evaluation developed by a behavioral scientist at the site of the study (FMR). It has been used to rate medical resident communication performance for three years. The instrument was originally created to evaluate residents’ skills in the context of the ACGME communication and interpersonal skills competency. The BSTRC is primarily based on the Kalamazoo Consensus Statement. The communication behaviors identified in the BSTRC are very similar to those in the Kalamazoo Essential Elements- Communication Checklist and include behaviors such as “welcomes patient by name,” “elicit patient’s agenda,” and “uses open ended questions and closed ended questions appropriately” (Makoul, 2001b; L. Daniel, personal communication, 2007). This approach to behavioral assessment is known as the task approach and was discussed in detail in Chapter 2 (Makoul, 2001b). Makoul endorsed the use of the task approach in communication assessment because it is focused on
Physician Adherence

observable behavior and provides a structured approach for the evaluation of both content and process of encounters.

In the context of resident training, the BSTRC is typically rated, by expert observers, on a 9-point Likert scale, grouped into descriptive categories including developing (1, 2, 3), acceptable (4, 5, 6), and exemplary (7, 8, 9). However, despite these descriptive categories, there is no agreed upon classification system (e.g., poor, fair, good, very good, excellent) for indicating overall communication performance. For the purpose of the present study, the instrument was modified into a checklist format (i.e., a checkmark indicates that the behavior was observed) to adapt it for use with observers/raters who were not considered to be “experts” in the field of physician-patient communication, and therefore unable to detect nuances that would be needed to distinguish ratings on a 9-point scale.

The checklist is divided into seven subscales - each communication subscale contains a number of specific behaviors for a combined total of 25 items. The 7 tasks include: (a), rapport/doctor-patient relationship (6 items), (b) open the discussion/establish focus (3 items), (c) gathering information (3 items), (d) understand patient’s perspective (3 items), (e) sharing information (4 items), (f) reaching agreement (3 items), and (g) providing closure (3 items). A Cronbach’s alpha reliability coefficient (α) was calculated for internal consistency. The reliability coefficient for the total score was high (α = .80). The reliability for the subscales was: (a), rapport/doctor-patient relationship (α = .21), (b) open the discussion/establish focus (α = .38), (c) gathering information (α = .63), (d) understand patient’s perspective (α = .57), (e) sharing information (α = .52), (f) reaching agreement (α = .59), and (g) providing closure (α =
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The mean total score for the BSTRC was 13.02 (SD = 4.36). For the purpose of this study, the primary interest is the adherence to the entire set of communication behaviors as identified in the BSTRC, therefore, only the total score will be used in further analyses. Additionally, the total score has better reliability compared to the subscales. Additional psychometric properties for the BSTRC will be discussed below, including content validity (determined by card sort method), convergent validity, and interobserver reliability.

Content validity. In order to estimate content validity, a card-sorting method was used (Moore & Benbasat, 1991). A group of four graduate students served as judges/sorters. All of the judges were doctoral students in a counseling psychology program and members of a Health Psychology research group (two males, two females). They were given 25 cards, each card containing one item from the BSTRC. Additionally, they were provided with a list of the titles of the BSTRC subscales. The judges were asked to independently assign each item card to one of the categories on the list. According to Urbach, Smolnik, and Riempp (2009), items are considered to have content validity if there is at least 50% agreement between judges. Based on these guidelines, 15 of the 25 (75%) total items of the BSTRC demonstrated content validity. The subscales with the highest rate of content valid items included subscale 4, (i.e., understands patient’s perspective) which demonstrated validity for all 3 items (100%) and subscale 1 (i.e., rapport/doctor-patient relationship), in which 5 of the 6 (83%) items demonstrated validity. Results for content validity for the remaining subscales were as follows: (a) for subscale 2 (i.e., open the discussion/establish focus), 2 out of 3 (67%) items were valid, (b) for subscale 3 (i.e., gathering information), 1 of the 3 items (33%) was valid, for
subscale 5 (i.e., sharing information) 1 of 4 items was valid (25%), for subscale 6 (i.e., reaching agreement), 1 of 3 (33%) items was valid, and for subscale 7 (i.e., providing closure) 2 of the 3 items (67%) were valid.

Convergent validity. Convergent validity was established by comparing the responses to the BSTRC to the responses to the SEGUE checklist (Makoul, 2001b; appendix E), which has been shown to be a reliable measure in a variety of medical teaching settings (Dowell, Dent, & Duffy, 2006; White & Malik, 1999). The SEGUE is a 25 item checklist that uses a yes/no format on which raters indicate whether or not a communication behavior has occurred. When used as a research tool, the SEGUE has yielded high interobserver reliabilities ranging from .93 - .99 (Makoul). The SEGUE instrument was chosen for comparison (convergent validity) based on it good psychometric properties (e.g., face validity, content validity, and interobserver reliability) as well as the fact that the format and the items (e.g., communication behaviors) on the SEGUE are very similar to the BSTRC.

Observers were trained to use the both the BSTRC and SEGUE to identify target behaviors and record them. Each time a behavior was observed, a checkmark was placed next to the appropriate item on the BSTRC or a checkmark was placed under the appropriate box in the SEGUE (i.e., yes/no). Checklist scores were then calculated by summing the number of checkmarks for each subscale to yield a total score. Additionally, scores were summed for each subscale. Using total checklist scores is a useful way of comparing adherence between groups. This idea has been supported by Makoul (2001b) who stated that checklists can be used to “summarize the degree to which communication tasks are accomplished” during encounters (p. 25). Twenty percent
of the cases were observed using both the BSTRC and SEGUE instruments in order to estimate convergent validity. Based on the Pearson correlation coefficient ($r = .71, p < .05$) there was a significant relationship between responses on the BSTRC and responses on the SEGUE, which provided further support for validity of the BSTRC.

**Observer Training**

Coders for the study were four graduate students in a counseling master’s program. All coders were female and had an interest in health psychology. They received approximately 4 hours of behavioral observation training, which included reviewing instruments and coding practice. Three of the observers were trained together and midway through the study one of the coders was replaced by another. Therefore, the fourth observer was trained at a later date, using the same training protocol. The observers were trained by the primary investigator using a coding manual based on the BSTRC. The training manual was developed by the primary researcher using a template of a similar manual developed for a project that examined physician communication (C. Shue, personal communication, May 1, 2008). The manual was based on behavioral observation principles and included a copy and description of the BSTRC in addition to observation and recording procedures (see appendix C). Initial training focused on becoming familiar with the items on the BSTRC. Observers were presented with operational definitions and specific examples of each subtask to be used as a reference during the training process as well as during data collection. The BSTRC combines *molar* and *molecular* levels of observation. For example, some behaviors are molecular (e.g., greet patient by name, acknowledge others in room). The molar behaviors in the BSTRC involve a group of behaviors (e.g., demonstrates nonverbal). Therefore, observers were
required to use some level of interpretation with molar behaviors, whereas molecular behaviors are relatively straightforward. The definitions and examples were discussed among the group and any preliminary concerns or questions were addressed. Once the observers became familiar with the BSTRC, the primary investigator and observers independently reviewed one written vignette of a physician-patient interaction using the BSTRC. The observers then compared responses with that of the primary investigator as well as with other observers to informally assess accuracy and address any questions or concerns (Kacmar & Hochwarter, 1996; Olswang, Svensson, Coggins, et al., 2006).

Next, observers viewed a non-scripted videotaped encounter and used the BSTRC to record behaviors. Each observer’s total score on the BSTRC was compared with that of another observer to establish interobserver reliability. Based on the training protocol, observers were allowed to begin coding patient videos once interobserver reliability reached an acceptable limit (kappa > .60). The interobserver reliability for all observers following training is reported below.

Behavioral Observation and Psychometrics

Since behavioral observation is focused on overt, observable behavior(s), validity and reliability are addressed differently than in typical survey research, often focused on the measurement of abstract constructs. Below is a discussion of validity and reliability as they are assessed in the context of a behavioral observation system (e.g., BSTRC).

Validity. In quantitative behavioral observation, a phenomenon (in this case physician communication), is “conceptually reduced” and results in a number of behavioral variables, that are observable and measurable. Suen and Ary (1989) defined validity in relation to behavioral observation, indicating that validity is “the degree to
which an observed score represents what it is supposed to represent” (p. 157). Suen and Ary stressed the importance of an underlying theoretical basis on which the measurement is based. Whereas consistency of scores (e.g., reliability) can be estimated based on statistics, determining validity is more complex, depending on the level of measurement and the nature of the behavior(s). There are a number of ways that validity can be demonstrated including (a) the degree to which the theoretical dimension is represented by a measure (i.e., content validity), the extent to which a set of responses using a specific observation procedure/instrument correlates to those obtained from another method of measuring the same criterion (i.e., criterion-related validity) and how well an observation system measures a construct (i.e., construct validity), and to what degree an observation system looks as though it measures what it was intended to measure (i.e., face validity).

Although behavioral observation may be less subject to bias compared to other methods, observational data are not necessarily bias free. According to Miller (1987), the nature of observational methods poses a number of threats to the validity of observational research. For example, observer influence occurs when the presence of an observer produces unintended effects on the behavior of the participant. Additionally, if the observer’s expectations regarding the outcome of the research skew results in the direction of what is expected (rather than what actually occurred), observer bias has occurred.

**Reliability.** The accuracy of observations is based on the relationship between observed/estimated occurrences and actual occurrence of target behavior(s). Therefore, the most vital aspect is that of *interobserver reliability* or *interobserver agreement*. These
terms, which are used interchangeably throughout the literature, refer to the consistency of the interpretation of behavior across two or more independent observers or raters (Miller, 1987). Miller defined interobserver reliability as the “extent to which two or more observers agree on the occurrences and nonoccurrence of a behavior” (p. 103). Interobserver reliability can be a challenging issue (Heppner, Kivlighan, & Wampold, 1999). Among the possible threats to reliability, poor observer training and observer drift (i.e., the tendency for the reliability of observers to drop in the absence of monitoring) have been cited as frequent challenges in observational research (Miller, 1987). As discussed earlier in the chapter, the quality of observer training is particularly important in terms of the integrity of the data.

There are over 16 ways in which an observational researcher may calculate interobserver agreement (Suen & Ary, 1989). Suen and Ary identified the five most commonly used: (a) smaller/larger index, (b) percentage agreement index, (c) occurrence and nonoccurrence agreement index, (d) nonoccurrence agreement index, and (e) kappa coefficient. The most commonly used indicator of interobserver agreement seems to be percentage agreement; however there is not an agreed upon “gold standard” (Kacmar & Hochwarter, 1996; Miller, 1987; Suen & Ary). One of the main weaknesses of the percentage agreement procedure is that fact that it may be inflated by chance agreement. For example, two observers may observe two unrelated events at two different times and still show a high agreement (i.e., chance agreement). This is mostly true for behaviors with particularly high or low occurrences.

In order to make a judgment regarding which calculation to use, Miller (1987) points out that it is imperative to consider the level at which the data will be analyzed.
Further, Makoul (2001b) suggested that reliability assessment should be connected to the purpose of the study itself. Therefore, since the purpose of the study was to investigate level of adherence to the communication model rather than specific behaviors, reliability was assessed for the overall score (i.e., checklist score). Interobserver reliability was assessed based on the overall score on the BSTRC using the kappa coefficient.

*Interobserver reliability.* Interobserver reliability provides an estimate of the accuracy of observations. The statistic that was used to calculate interobserver agreement was the kappa coefficient. Suen and Ary (1989) suggested that the kappa coefficient is a more accurate estimate of agreement, as it corrects for the chance agreement that may occur when using the percentage agreement procedure.

Kappa coefficient discounts chance agreements and is defined as the “difference between the actual observer agreement and the expected chance agreement” divided by the “total possible differences between observer agreement and expected change agreements” (Suen & Ary, 1989, pp. 111-112). Makoul (2001b) suggested that kappa coefficient should be used to determine interobserver agreement in lieu of the more commonly used Cohen’s $K$, as the kappa coefficient does not assume that marginal proportions are fixed a priori.

Kappa is a calculation that is based on the difference between “observed” agreement and “expected” agreement (or the amount of agreement that might be expected by chance alone; Viera & Garrett, 2005). The value of kappa ranges from 1.00 to -1.00. A positive coefficient indicates that observers agreed more frequently than expected by chance. A coefficient of 0 suggests that agreements among observers were no more than expected by chance. Finally, if observers agreed less frequently than expect by chance,
the kappa coefficient would be in the negative range. Cicchetti and Sparrow (1981) provided the following guidelines for practical significance: \( .75 = \text{excellent}; .60 - .74 = \text{good}; .40 - .59 = \text{fair}; < .40 = \text{poor} \). Viera and Garrett cited another commonly used scale to interpret kappa: \( .81 - .99 = \text{almost perfect agreement}; .61 - .80 = \text{substantial agreement}; .41 - .60 = \text{moderate agreement}; .21 - .40 = \text{fair agreement}; .01 - .20 = \text{slight agreement}; \) and \(< 0 = \text{less than chance agreement} \). Sim and Wright (2005) suggested that \( .40 \) is the minimally acceptable level when using the kappa statistic. In order to ensure reliability and decrease the effect of observer drift, a systematic change which can occur in observations over time) a kappa value of \( .60 \) was used for the minimal kappa value during observer training. A kappa value of \( .60 \) is above \( .40 \) (minimally acceptable kappa level) and considered “good” according to Cicchetti and Sparrow. Following training, all observer pairs reached an acceptable kappa statistic (> .60) on the first trial. The kappa statistic for the pairs was \( .63 \) for Pair A (observers 1 and 2), \( .67 \) for pair B (observers 2 and 3), and \( 1.00 \) for pair C (observers 3 and 4).

Interobserver reliability was also estimated after all of the tapes were coded. Each videotape was coded at least once and 20% of the videotapes were coded by two observer pairs (independently) to determine reliability. Pair A (observers 1 and 2) had a kappa average of \( .41 \) for the 20% of tapes that were compared. The mean kappa for Pair B (observers 3 and 4) was \( .52 \). The kappa statistic for the pairs ranged between \( .36 \) and \( .50 \) for Pair A and between \( .29 \) and \( .71 \) for pair B. One explanation for the decrease in interobserver reliability is observer drift, which was defined earlier in the chapter and will described in more detail in Chapter 5.
The same procedures and guidelines were used to establish interobserver reliability for the SEGUE (used to examine convergent validity) following observer training. The kappa statistic was calculated during training and was 1.00 for Pair A and .81 for pair B, above the acceptable limit to proceed with data collection. Twenty percent of the videotapes were coded using both the BSTRC and the SEGUE to establish convergent validity; however, interobserver reliability was not calculated for the SEGUE post-training.

Validity of behavioral observations. For the current study, observer influence was controlled by the use of videotapes in lieu of direct observation. Observer bias, on the other hand can occur whether behavior is observed directly or from videotape, thus relevant to the current study (Landis & Koch, 1977). This study decreased bias by using an instrument with response categories that are specific and objective. Additionally, observers will not be informed of the hypotheses of the study.

Working Alliance Inventory-Short Form (WAI-SF) (Appendix D)

The Working Alliance Inventory-Short Form (WAI-SF; Tracey & Kokotovic, 1989) is a 12-item self-report questionnaire with three subscales designed to measure the level of working alliance, as it is perceived by the patient. The WAI-SF is based on Bordin’s conceptualization of the working alliance and includes three subscales (a) task, (agreement on specific goals of treatment), (b) goals, (collaboration on treatment-related tasks), and (c) bond, (level of emotional bond between provider and patient). Each item is rated based on a 5-point Likert scale (1 = never, 5 = always). The WAI-SF takes approximately 6-7 minutes to complete. Each subscale score is obtained by summing the four items of the scale (ranging from 4-20). The total score is obtained by summing all
subscale scores (ranging from 12-60). For all scales, higher scores are indicative of higher levels of the construct.

The WAI-SF is an adapted version of the Working Alliance Inventory (WAI), developed by Horvath & Greenberg (1989) to measure the level of perceived alliance between the therapist and client during the psychotherapy process. There is a wealth of empirical literature that supports the validity of the WAI. Horvath and Symonds (1991) indicated that the WAI has been used in over 100 published articles. Additionally, meta-analyses (Horvath and Symonds) have demonstrated that the WAI has predictive validity. The original WAI is made up of 36 items and is comprised of the same three subscales as the WAI-SF. In order to develop a shorter, more efficient version of the WAI, Tracey and Kokotovic (1989) conducted a factor analysis that revealed a one factor solution (i.e., the ‘alliance’ factor), that explained 59% of the variance. Additionally, the results of the analysis identified three second-level factors (subscales). The authors then determined which items had the highest factor loadings on the respective factors (i.e., tasks, goals, bond0 and selected 4 items from each subscale with the highest factor loadings to create the new, shorter subscales. Results suggested that the task scale consisted of items. 1, 2, 8, and 12, the bond subscale consisted of items 3, 5, 7, and 9, and goal consisted of items 4, 6, 10, and 11. The coefficient values for the task, goal, and bond subscales following item reduction were .82, .72, and .89, respectively.

The WAI-SF showed convergent validity when compared with the WAI. Busseri and Tyler (2003) compared the two scales by regressing scores on the WAI onto the WAI-SF. Results demonstrated a strong level of agreement between the two and that the factor structure among the two scales were similar. These findings, along with those of
Kokotovic (1989) suggest that the WAI-SF is an accurate measure of the working alliance and may be used interchangeability with the WAI.

Both the WAI and WAI-SF have been shown to be reliable and have good construct, concurrent, and predictive validity (Busseri & Tyler, 1989; Evon & Burns, 2004; Forchuk, 1995; Fuertes et al., 2007; Horvath & Greenberg, 1989; Horvath & Symonds, 1991). Previous research has demonstrated high internal consistency for the both the total score of the WAI-SF, ranging from .80 to .95. For the three subscales, moderate to high internal consistency (ranging from .71 to .90) was reported in prior studies (Busseri & Tyler, 2003; Fuertes et al., 2007; Tracey & Kokotovic, 1989).

The WAI-SF has been used within psychotherapy settings (Busseri & Tyler) as well as medical settings (Evon & Burns; Forchuk; Fuertes et al.). When used in medical contexts, the wording of items on the WAI-SF is often altered to make the statement for applicable (e.g., “doctor” used in place of “therapist”). The WAI-SF has been shown to be reliable even with changes in wording (Evon & Burns; Fuertes et al. 2007, 2008). For example, in a study of working alliance between cardiac rehabilitation patients and program staff members, Evon and Burns substituted “program staff” in lieu of “therapist” on WAI-SF completed by patients. Results of the study demonstrated high internal consistency ($\alpha = .84$). Another study which examined the physician-patient working alliance using the WAI-SF reported acceptable internal consistency values for the WAI-SF subscales; tasks ($\alpha = .82$), goals ($\alpha = .72$), and bond ($\alpha = .89$) (Fuertes et al.)

For the present study, internal consistency for the WAI-SF was calculated using Cronbach’s alpha reliability coefficient. Alpha was moderate (.61) for the total scale. In terms of the WAI-SF subscales, reliability coefficients were as follows: (a) task ($\alpha = .89$),
(b) bond ($\alpha = .85$), and (c) goals ($\alpha = .23$). The mean total score for the WAI-SF was $M = 51.17$ ($SD = 10.78$). Past research has suggested that the subscales of the WAI-SF are more reliable than the total score. This was also the case for two of the WAI-SF subscales in this study; Therefore only the task and bond subscales will be used in the analysis. The goal scale was omitted due to poor reliability. Also, for the purpose of this study, the word “therapist” was replaced with “doctor.”

Design

The design of the current study was a cross-sectional design that made inferences based on a single encounter with a physician and patient pair. Additionally, the present study relied on behavioral observation (BSTRC) and self-report survey methods (WAI-SF) for measurement.

Analysis

Power

A power analysis was conducted to determine the number of participants (i.e., patient) that were required to have sufficient statistical power for analyses. According to Heppner et al., (1999), power is defined as the probability that a researcher will decide that there is a relationship between variables when in fact there is a true relationship or the probability of rejecting the null when a relationship does not exist. The current study compared the means of two groups (e.g., age cohorts). In order to ensure adequate power (.80), using an estimated large effect size, an alpha level of .05, and two-tailed test, results of the power analysis indicated that a total of 52 participants were needed for the analysis (Cohen, 1992; Heppner et al.). Data were collected for nearly 12 months. During that time, researchers were able to obtain a sample size of 29 participants from the 18-64
age group, but only 12 from the 65 and over group. In order to compensate for the low power due to small sample sizes, ad-hoc analyses were conducted. The analysis will be explained in more detail in the ‘Results’ section.
Chapter 4

RESULTS

Introduction

This chapter will present the results of the statistical analyses discussed in the previous chapter. Additionally, this chapter will include demographic data, descriptive statistics of the instruments and measures used, and a summary of the findings.

Analysis

Correlation Analysis

In order to explore relationships between the patient variables (e.g., age, number of chronic illnesses, and total number of previous visits) and the main variables of interest (e.g., total BSTRC score, total WAI-SF score, and WAI-SF subscale scores), a correlation matrix was created using the Statistical Package for the Social Sciences (SPSS). The correlation matrix is presented in Table 3.

As presented in Table 3, Pearson correlation coefficients ranged from -.03 (lowest) to .87 (highest). Results revealed that the correlation between age and the number of chronic diseases was significant at .64 ($p < .01$). This suggests that the older a patient was, the more chronic illnesses were reported. Also of note, the number of chronic illnesses was negatively correlated with the total score of the WAI-SF ($r = -.38, p < .05$) and the WAI-SF ‘bond’ subscale ($r = -.46, p < .01$). This result implies that the more chronic illness that a patient had, the less likely it was that a patient and physician
formed an emotional bond. The remaining significant correlations were among responses to the subscales of the WAI-SF. Responses to three of the WAI-SF subscales (task, goal, and bond) were significantly correlated with the WAI-SF total score. Responses to the subscales were also significantly correlated, except for the relationship between the bond and goals subscales.

Table 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>Age</th>
<th>Chronic</th>
<th>Visits</th>
<th>BSTRC</th>
<th>WAI-SF</th>
<th>Task</th>
<th>Bond</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td></td>
<td>-0.17</td>
<td>-0.18</td>
<td>0.03</td>
<td>-0.16</td>
<td>-0.19</td>
<td></td>
</tr>
<tr>
<td>2. Chronic</td>
<td></td>
<td>0.03</td>
<td>-0.38*</td>
<td>-0.31</td>
<td>-0.46**</td>
<td>-0.24</td>
<td></td>
</tr>
<tr>
<td>3. Visits</td>
<td></td>
<td></td>
<td>-0.15</td>
<td>-0.24</td>
<td>0.14</td>
<td>-0.18</td>
<td></td>
</tr>
<tr>
<td>4. BSTRC</td>
<td></td>
<td></td>
<td>0.07</td>
<td>-0.12</td>
<td>-0.28</td>
<td>0.07</td>
<td></td>
</tr>
<tr>
<td>5. WAI-SF</td>
<td></td>
<td></td>
<td></td>
<td>0.76**</td>
<td>0.70**</td>
<td>0.87**</td>
<td></td>
</tr>
<tr>
<td>6. Task</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.77*</td>
<td>0.38*</td>
<td></td>
</tr>
<tr>
<td>7. Bond</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>8. Goals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Chronic = number of chronic illnesses, Visits = number of previous visits to physician, BSTRC = Behavioral Science Tape Review Checklist, WAI-SF = Working Alliance Inventory-Short Form
*p < .05. **p < .01.

Independent Samples t-test

Sample Size and Power. As mentioned in chapter 3, the originally proposed sample size was not met, due to limited resources and time constraints. In an effort to adjust for constraints regarding sample size and unequal sample sizes while preserving power, a post-hoc power analysis was conducted. This type of analysis, known as a compromise power analysis (Erdfelder, Faul, & Buchner, 1996; Hinton, 2004) allows the researcher to adjust Type I and Type II error risks in order to increase the power in a sample that would otherwise have a very low power. This type of power analysis is
calculated using effect size, sample size, and an error probability ratio (i.e. \( q = \beta / \alpha \)). In order to balance the error risks (i.e., \( \alpha = \beta \)), \( q \) was set at 1 or \( (\beta = 1 \times \alpha) \). As a result of this adjusted error ratio, the analysis performance yields the estimated probability of \( \alpha \) and \( \beta \) error (which is increased, but equal to each other).

\textbf{t-test.} In order to test the first hypothesis (i.e., the level of physician adherence does not differ significantly between the two age groups), a two-tailed, independent samples t-test was conducted to compare the total scores on the BSTRC between the two age groups (i.e., adults vs. older adults). Results of the t-test failed to reveal a significant difference between the two groups \([t(39) = .31, p = .76]\). Results of the compromise power analysis suggested the use of a \( p \)-value of .17. Therefore, these parameters were applied to the results of the t-test. Using a \( p \)-value of .17, results remained insignificant and failed to reveal a significant difference between the scores for the BSTRC for adults and older adults, \([t(39) = .31, p = .17]\). Therefore, these results failed to reject the null hypothesis. There were no differences in physician communication adherence between the younger and older adult age groups. Since the BSTRC has a range from 0-25, means scores indicate that overall physician adherence was slightly above 50% of the total possible. Thus, physicians adhere to over 50% of the total communications tasks on the BSTRC with both the adult and older adult groups. Means, standard deviations, and standard error are presented in Table 4.
Table 4

*Means and Standard Deviations: BSTRC*

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults (18-64)</td>
<td>14.07</td>
<td>4.76</td>
<td>.88</td>
</tr>
<tr>
<td>Older Adults (65 and over)</td>
<td>13.58</td>
<td>4.19</td>
<td>1.21</td>
</tr>
</tbody>
</table>

Range = 0-25

Regression

The second hypothesis stated that there would be no significant relationship between the level of physician adherence to communication behaviors and patient ratings of working alliance with their physicians. A multiple regression analysis was conducted to test this hypothesis. The purpose of multiple regression is to examine the relationship between several independent (or predictor) variables and a dependent (criterion) variable. In this study, the relationship of interest was between communication adherence and two predictor variables (e.g., responses to the task and bond subscales of the WAI-SF).

Multiple regression allows these factors to enter the analysis separately so that the effect of each can be estimated, along with the impact of any simultaneous influences upon the dependent variable. One advantage of using regression analysis is the fact that error is minimized. Although regression can be used to demonstrate a relationship between variables, it cannot be used to determine causation (Welkowitz, Cohen, and Ewen, 2006).

Since the purpose of this regression analysis was to best “explain” the relationship between the predictors (responses to the task and bond subscales) and the criterion (total BSTRC score), the predictors were entered simultaneously (Wampold & Freund, 1987).
The simultaneous method is also recommended for small sample sizes (Wampold & Freund).

The regression analysis resulted in a significant model $F(2, 38) = 3.6, p < .05$. Results for the final equation revealed that $R^2$ was .161. This indicated that responses to task and bond subscales of the WAI-SF accounted for approximately 16.1% of the variance in the communication adherence variance (i.e., total BSTRC score). Thus, the proportion of unexplained variance based on this model was 83.9%.

In terms of how much variance each predictor explained in the model, responses to the bond subscale were found to contribute significantly to the variance in adherence, $t(38) = -2.58, p < .05$, while responses to the task subscale did not significantly contribute to adherence, $t(38) = 1.48, p = >.05$. These findings were consistent with the correlation matrix that showed no significant correlation between the task and adherence variables. Although responses to the task subscale were not significantly correlated with responses to the criterion variable (adherence), it was significantly correlated with responses to the other predictor variable (bond) ($r = .77, p. < 01$). Further, task seemed to be adding something to the regression model, as the regression coefficient decreased when it was removed ($R^2$ dropped from .161 to .112). Based on the results, it is likely that the task subscale served as a suppressor variable in the regression equation. Pedhazur (1991) indicated that a suppressor variable is typically not correlated with the criterion, but is correlated with another predictor variable. Additionally, the suppressor variable improves the predictive power of a regression equation by controlling for shared variation with other predictors.

Beta coefficients provide yet another measure of a predictor variable’s impact on
the criterion variable. The beta coefficients (β), or the standardized regression coefficients, represent the difference that would result from a change in the standard deviation of the criterion variable. Results from this study indicated that the standardized coefficients for the task and bond subscales were .34 and -.60, respectively, which provided further confirmation that the bond subscale explained more variance in the total BSTRC score, compared to the task subscale.

The results of the regression revealed a significant relationship between the 2 predictor variables (i.e., responses to the task and bond subscales) and the criterion variable (i.e., physician adherence as measured by total BSTRC score). Therefore, the null hypothesis was rejected.

Supplementary Analysis

Due to the uneven sample sizes between the two groups, t-tests were conducted to examine the variability within the larger group. For the analysis, the adult group (n = 29) was dividing in half using the random selection function in SPSS. The two subgroups were then compared on the BSTRC total score and the two WAI-SF subscales, task and bond. Results revealed that there were no significant differences between the two groups on any of the measures of interest. There were no significant differences in communication adherence between the two randomly assigned groups (t(27) = .558, p = .58). In terms of the task and bond subscales, the results were t(27) = .1.10, p = .28 and t(27) = .985 p = .33, respectively.
Chapter 5
DISCUSSION

The present study investigated whether there were any differences in how physicians communicated with adults and older adult female patients. Additionally, this study examined whether the level of communication adherence by physicians was related to patients’ view of the working alliance between physicians and patients. Although there is ample literature in the area of physician-patient communication (DiMatteo & Taranta, 1979; Emanuel & Emanuel, 1992; Fuertes et al., 2007; NIA, 2008; Roter, 2000; Taylor, 2003; Walker et al., 2001), particularly from the perspective of medical education (ACGME Outcome Project, 2007; Duffy, et al., 2004; Makoul, 2001b; Smith et al., 1998), past research has failed to examine how the relationship between physicians and patient (specifically working alliance) might be affected by communication.

For the purpose of this study, communication adherence was measured by the total score on the BSTRC (L. Daniel, 2007) and was comprised of the following components: (a), building rapport/doctor-patient relationship, (b) opening the discussion/establish focus, (c) gathering information, (d) understanding patient’s perspective, (e) sharing information, (f) reaching agreement, and (g) providing closure. The BSTRC was chosen because it was created specifically to measure physician communication skills at the FMR and it was based on the Kalamazoo Essential Elements model (Schirmer et al., 2005) and complied with the ACGME communication and interpersonal skills competency (ACGME Outcome Project, 2007). Working alliance was
measured using the WAI-SF (Tracey & Kokotovic, 1989), which was comprised of three subscales: tasks, bond, and goals. The WAI-SF was used in this study because of it’s good psychometric properties as well as the fact that it can be adapted for use in medical settings and provides a total working alliance score in addition to subscale scores.

One of the primary goals of this study was to add to the existing body of literature related to physician-patient communication. A sample of 41 adult female, family medicine patients agreed to (1) have their appointment with their physician videotaped and (2) complete the WAI-SF. The first hypothesis stated that the level of physician adherence would not differ significantly between the two age groups. The second hypothesis stated that there would be no significant relationship between the level of physician adherence to communication behaviors and patients’ ratings of working alliance with their physicians.

Conclusions from this study are particularly important, given the rapidly changing demographic environment of the United States. The CDC (2009) estimated that by the year 2030, 20% of the United States population will be over age 65. Although a number of organizations (e.g., IOM, CDC) have launched initiatives aimed at increasing the number of physicians trained to meet the unique needs of older adults, there are still a number of unanswered questions as to what those particular needs are. Further, this study offers implications for the physician-patient relationship, which despite a move towards patient-centered care has not received much attention in the literature.

The present study was unique in that its was (a) theoretically grounded, using a communication model (Kalamazoo Essential Elements Model: Brunett et al., 2001) and (b) considered multiple components of physician-patient communication as well as the
nature of the relationship itself (i.e., working alliance). The following section provides a
discussion of the results as they relate to the primary variables of interest, including age,
communication adherence, and working alliance, followed by implications. Additionally,
results of supplementary analyses will be included to promote a more comprehensive
discussion of implications and recommendations.

**Physician-Patient Communication**

Past research has shown that patient variables (e.g., age, sex, SES) impact the
process and outcome of the physician-patient relationship (Beisecker, 1996; Bradley et
al., 2001; Gabbard-Alley, 1995; Hall et al., 1988). One of the primary variables in the
present study was patient age. Although research has been mixed in terms of whether or
not age influences physician-patient communication (Adelman et al., 1991; Hall &
Dornan, 1990; Roter & Hall, 2004), most studies (Beisecker; Cryns et al., 1989; Bertakis
et al., 1993; Roter et al., 1994) have suggested that physician-patient communication with
older adults is poorer, compared to that with younger adults. On the other hand, a limited
number of studies have failed to find any differences (e.g., Adelmen et al., 1990) or have
found that older adults actually fared better than younger adults in some areas (Charles,
Goldsmith, Chambers, Haynes, & Gauld, 1996; Roter et al., 1988). For example, Roter et
al. (1988) noted that older patients received more information and a higher amount of
verbal responses compared to younger patients.

In the current study, physician-patient communication was measured in terms of
adherence to the model. In order to examine whether any age differences were present,
the first hypothesis was tested (i.e., there would be no significant difference in adherence
to communication between the two age groups). An independent samples t-test was
conducted and revealed that the number of items endorsed on the BSTRC for the adult group did not differ significantly from that of the older adult group. Based on these results, it appears that communication behaviors were applied to patients in a comparable way, regardless of age. This finding seemed to contradict the majority of literature that has consistently identified differences in physician-patient communication based on age; however, there are a number of caveats to be considered when comparing the results of the current study to previous studies. First of all, it is difficult to directly compare the results of the current study to past studies, due to differences in both the independent and dependent variables. In regard to the independent variable, no previous studies directly compared differences based on two age groups (i.e., older adults vs. younger adult) where age was treated as a categorical variable with two levels (as in the current study). Prior studies that tested age as a categorical variable either had five or six levels (i.e., age cohorts) (Bradley et al., 2001) or treated age as a continuous variable and did not report frequencies data (Fuertes et al., 2007; Treadway, 1983; Roter et al., 1997) to allow direct comparisons. In regard to the dependent variable, there were also notable differences in the way in which communication was defined. The present study examined adherence to a communication model, whereas past studies typically investigated a single communication behavior in isolation or a number of communication behaviors (e.g., question-asking, information-gathering, etc.). Therefore, the definitions of the variables in the current study were unique, limiting the ability to directly compare these results to other studies. Additionally, the size and demographic makeup of the sample in the present study was atypical compared to previous studies. The following paragraph will
review the limitations of the current sample and explain how the results might have been affected.

First, the sample of older adults in the present study was extremely small \((n = 12)\), which limited the variability of scores on the BSTRC, decreasing the chance of finding any significant differences. Additionally, the older adult sample was heavily skewed towards the upper end of the age range with participant ages ranging from 65 to 88, with a mean age of 79, which is towards the higher end of the range. Further, with only 4 participants in the older adult group under 79, over half of the sample was aged 80 or older. Research has shown that adults over 80 tend to have more potential barriers to communication, including decreased visual acuity, hearing difficulty, and memory decline (Haber, 2003; Hummert & Nussbaum, 2001). Therefore, it was possible that this sample systematically differed from other samples of older adults as a function of the skewed age range.

Another demographic variable of relevance is biological sex (all participants were female). Research has shown that males and females exhibit differences in communication styles that affect the way in which patients are perceived and treated by physicians (Gabbard-Alley, 1995; Hall et al., 1994). For example, Hall et al. found that physicians used more confirmatory utterances (e.g., mm-hmm, yeah, right) and more non-verbal communication with female patients. Further, results from a meta-analysis (Hall et al., 1988) suggested that female patients asked for and received more information compared to males. Women were also found to be more likely to self-disclose information (Gabbard-Alley). Additionally, Roter, Lipkin, and Korsgaard (1991) found that compared to males, female patients received significantly more psychosocial
information, biomedical counseling, and psychosocial counseling. Results from previous research on sex and physician-patient communication (Gabbard-Alley; Hall et al., 1988, Hall et al., 1994) has consistently shown that (a) female patients tend to exhibit more communication behaviors than males and (b) physicians use more communication behaviors when interacting with female patients compared to male patients. Therefore, it is possible that, in the present study, overall level of adherence may have been higher since all participants were female. If male patients had been included in the sample, it is likely that the overall level of adherence (scores on the BSTRC) may have been more variable.

Based on the descriptions above, it is clear that the sample for the current study had a number of unique demographic characteristics. Although the sample characteristics limit the ability to directly compare the results to previous studies, the results can serve as a basis for further study. As the majority of medical training programs are adopting communication models to guide training (Brunett et al., 2001; ACGME, 2001), more research is needed to understand how these models translate into actual physician-patient interaction.

So far, discussion has focused largely on how patient demographic characteristic may have impacted the results. Likewise, the characteristics of the physicians and the training setting should be considered when interpreting the results. The physicians used in this study were third year resident physicians. All were licensed physicians; however, they were still ‘in-training’ and therefore subject to evaluation. Their ‘in-training’ status would have likely served as a motivating factor for them to adhere closely to the communication model, similar to the effects found by Smith et al. (1998), where the
authors cited a “performance factor” in which the residents had a desire to perform well in a situation in which they were aware they were being observed. If this study been conducted with physicians who had been practicing independently for a number of years, the results might have been different. An example of the “performance factor” within medical training was noted in a study by Yancy et al. (2001). The study found differences between the practice styles of attending physicians and resident physicians (i.e., resident physicians tended to take longer and focused on technical skills). The authors attributed these differences to the resident physicians’ inexperience and hypothesized that resident physicians placed more value on following protocols and procedures, due to the emphasis on these aspects during their training and the fact that they are continually evaluated on adherence to protocols/procedures.

A final variable that might have contributed to non-significant results was the modification of the BSTRC from an ordinal to nominal scale. In the context of resident training, the BSTRC is typically rated, by expert observers, on a 9-point Likert scale, but was modified for the present study. These modifications allowed the instrument to be more valid when used by observers/raters who were not considered to be “experts” in the field of physician-patient communication. The drawback of the modification was that by changing the scale from ordinal to nominal, variability was decreased. In the current study, the original 9-point Likert scale on the BSTRC was reduced from a potential of 9 response categories to just 2 categories (present, absent) thus reducing variability from a potential range of 200 (25-225) to just 25 (0-25). With less variability the modified BSTRC then had less sensitivity to detect differences. Therefore, if the original scale had been used (along with expert raters), it would have likely been more sensitive to the
quality of the communication behaviors and may have detected group differences. (DeVellis, 2003).

In summary, given the small sample size, training setting of the study, patient characteristics, and instrument modifications, these results should be considered preliminary and as a source of information to guide further investigation. The following section discusses the relationship between physician adherence to communication tasks and patient perceptions of the physician-patient working alliance.

Working Alliance and Communication Adherence

Originally termed by Greenson (1967), working alliance is generally conceptualized as collaboration and agreement between the client and therapist (or physician and patient) and comprised of three components (a) goals, (b) tasks, and (c) bond (Bordin, 1976; Fuertes et al., 2007; Horvath & Symonds, 1991). In order to explore the second hypothesis (i.e., there is no significant relationship between the level of physician adherence to interpersonal and communication tasks and the working alliance between physicians and patients), a multiple regression analysis was conducted using responses to two of the WAI-SF subscales as the predictors and communication adherence as the criterion.

Results for the final regression equation were significant, with the task and bond WAI-SF subscales included as predictor variables ($R^2 = .16$). The two subscales accounted for approximately 16.1% of the variance in communication adherence as measured by the BSTRC total score. The proportion of unexplained variance based on the model was 83.9%. The results suggested that there was a significant correlation between working alliance and communication adherence; however, regression cannot be used to
explain any underlying causal mechanisms. Therefore, no assumptions can be made as to whether communication adherence leads to working alliance or vice versa. Further, the amount of unexplained variance is rather high, which suggests that there are other variables, besides the ones included in the present study, that contribute to the explanation of variance in communication adherence.

Beta coefficients ($\beta$), or the standardized regression coefficients were used to measure a single predictor variable’s impact on the criterion variable. Whereas $R^2$ represented the total contribution of all predictor variables to the criterion variable, beta coefficients represent the independent contributions of each independent variable. The sign of the beta (negative or positive) can be used to interpret the direction of the relationship between the predictor variable and criterion variable. The beta value can be used for comparison purposes, to determine which predictor variables explained more variance in the criterion. A beta value of 0 is indicative of no relationship between the specific predictor variable and criterion variable. Results from this study indicated that the standardized coefficients for the task and bond subscales were .34 and -.60, respectively, suggesting that the bond subscale explained more variance in the total BSTRC score, compared to the task subscale. A more detailed discussion of each subscale will be provided below.

Task and adherence. The definition of task within the working alliance is provider-patient agreement and cooperation on tasks related to treatment and goals (Bordin, 1976; Fuertes et al., 2007). The results of this study suggested that task subscale alone did not significantly explain adherence to communication goals, $t(38) = 1.48$, $p = .05$, and that it was only significant when entered into the equation along with bond. As
mentioned in Chapter 4, it is the task subscale appeared to serve as a suppressor variable in the regression equation (Pedhazur, 1991). This suggests that task, although not significantly correlated with adherence, controlled for shared variance, therefore improving the predictive power when it is added to the equation. In order to determine the way in which the suppressor variable (task) influenced the other predictor variable (bond), beta coefficients were examined in addition to correlation coefficients. According to Cohen and Cohen (1975), if the beta coefficient for a predictor variable is the opposite sign from it correlation coefficient (correlation with the criterion), then it is serving as a net suppressor variable. Further, if the correlation coefficient was negative in direction and the beta was positive, then it is termed “positive net suppression” (Krus & Wilkinson, 1986). This is the case for the task predictor variable, as the correlation between task and communication adherence (BSTRC score) was -.12 and the beta coefficient was .34. In positive net suppression, the function of the suppressor is to suppress the error variance in the other criterion variable(s), so in the present study, task suppressed the error variance in bond, increasing the predictive power (Krus and Wilkinson). Other studies have reported overlap between the task and the other two subscales, but none of the studies specifically identified task as a suppressor variable (Fuertes et al., 2007; van Walsum et al., 2004).

**Bond and adherence.** In relation to working alliance, bond is defined as the level of emotional bond between provider and patient, often characterized by liking and trust (Bordin, 1976; Fuertes et al., 2007). According to the regression model, the bond subscale was found to contribute significantly to the variance in adherence, $t(38) = -2.58$, $p < .05$. This was supported by the value of the beta coefficient for bond, which was -.60.
Since the coefficient is negative, it can be assumed that there is an inverse relationship between bond and communication adherence. In other words, as bond increases, communication adherence decreases. At first glance, this seems counterintuitive; however, a negative relationship could reflect that as physicians and patients become more familiar with one another and begin to form a bond, they also learn how to effectively obtain information from one another. Therefore, some of the communication behaviors on the BSTRC would no longer be necessary.

**Chronic illness.** There was a significant negative correlation between number of chronic illnesses and the responses on the bond subscale; however, chronic illness was not significantly correlated with responses on the task subscale. Due to the lack of past research specifically relating to health status and the physician-patient working alliance, a discussion of health status as it relates to patient satisfaction with care will follow. According to Koch et al. (2005), positive ratings of the working alliance and its components are highly associated with satisfaction. Other studies have offered support for this finding (Bendapudi et al., 2006; Horvath & Greenberg; Horvath & Symonds, 1991).

The negative correlation between number of chronic illness and bond, revealed in the present study, is consistent with past findings that have suggested patients with poor health report less satisfaction with medical care (Hall et al., 1998). Some authors have proposed that sicker patients may “blame” the physician for aspects of their health, resulting in decreased satisfaction. Others (Greenley et al., 1982; Koch et al., 2005) have speculated that dissatisfaction with a physician negatively impacts a patient’s health status (through non-adherence, lack of communication regarding conditions/treatments,
etc.). In an alternative explanation, Greenley et al. suggested that physicians may react differently to patients with poorer health statuses as these patients are less rewarding for physicians, due to the challenges that they often present. Physicians reported feelings of frustration towards patients with poor health status and reported feelings of “liking” (i.e., interpersonal attraction) for patients with better health (Greenley et al.). These findings, along with the results of the present study provide support for the relationship between patient health and the physician-patient bond (Hall, Horgan, Stein, & Roter, 2002); however, direction of the relationship between health and working alliance remains unclear, as studies have only examined correlations between the variables.

Limitations

The initial limitation of the study is related to demographics of the sample. The sample was made up of only female patients and the racial makeup of the sample was unclear, as a number of the participants identified as ‘unspecified.’ Therefore, results should be interpreted with caution when generalized to the general population of family medicine patients.

The design of the study is another limitation. A convenience sample was used and all patients who met the inclusion criteria were invited to participate in the study, so the sample was not random and therefore subject to bias. It is unknown whether the sample is an accurate representation of the population. Due to the narrow scope of the inclusion criteria, the sample size was small. In addition to the problem of small sample size, the groups were uneven, with over twice the number of adults compared to older adults. Although the problem of unequal sample sizes was corrected for the t-test analysis by implementing a compromise power analysis, results should still be interpreted with
caution. The cross-sectional design of the study is also a limitation, as it does not allow for consideration of changes over time related to the patient-physician relationship. Further, although results demonstrated a relationship between adherence to communication and working alliance, the direction of the relationship, or causality, cannot be determined due to the correlational design.

The final limitations were related to instrumentation and measurement. There were no existing psychometric data available for the BSTRC, as it was a relatively new instrument and used solely at the Family Medicine Residency in Muncie, Indiana. Additionally, the BSTRC was modified from an ordinal to nominal scale, which decreased variability and likely affected validity. Further, the reliability of the BSTRC was only moderate based on interobserver reliabilities. This was attributed at least partially to observer drift, which could have been decreased by the implementation of follow-up training midway through the project. Additionally, the accuracy of self-report data used in the assessment of the working alliance was dependent on participants’ ability to understand items as well as their willingness to be truthful in their ratings. Therefore, any conclusions based on these data may be limited.

Despite these limitations, the results (although preliminary in nature), contributed to a relatively unique area of study, the working alliance within the physician-patient relationship. The following section discusses the relationship between physician adherence to communication tasks and patient perceptions of the physician-patient working alliance.
Implications of the Study

Conceptual Implications

The literature review in Chapter 2 provided an overview of the theory underlying current models of communication and interpersonal skills in physician training. As noted, the field of medicine continues to move towards a biopsychosocial approach to care, in which the patient is viewed as part of a system. This approach supports multidimensional models of care, including factors such as health beliefs, biological characteristics, behavior, psychological factors, social functioning, and other elements (Matarazzo, 1980). Communication models serve as guidance for the development of medical training curriculum, treatment protocols, as well as evaluation. The BSTRC includes all of the factors mentioned above, using task-based guidelines for communication with patients. The BSTRC was based on the Kalamazoo Essential Elements model, which originated from a 1999 consensus statement in which a number of medical organizations developed and agreed upon a coherent, synthesized framework of communication within medical encounters (Brunett et al., 2001). The BSTRC closely follows the main components of the model, with much of the same wording used in the subscales and items. Results of this study suggested that the ten physicians applied this approach in a similar way with adult female patients across the adult life span. This study provided preliminary support for using the Kalamazoo Essential Elements model as a theoretically grounded approach on which to base physician communication training with adult and older adult female patients, as results demonstrated that resident physicians were able to consistently apply the model to patients, regardless of age (Makoul, 2001a).
The present study has implications for the relationship between physician-patient communication and aspects of the working alliance. The WAI-SF, which was used to measure working alliance in this study, is based on Bordin’s (1976) conceptualization of the working alliance and includes three components: task, goals, and bond. The results of the study suggested that the goal component (i.e., agreement between patient and provider on specific goals) did not appear to be a reliable measure; however, adherence to communication was partially explained by the other two components, task and bond. In a study by van Walsum et al. (2004), an exploratory factor analysis (for the full version of the Working Alliance Inventory) revealed 2 factors instead of three: a combined task/goal factor and a bond factor. Other studies (within the psychotherapy literature) have also been unable to provide evidence of a three factor model of working alliance (Horvath & Greenberg, 1989; Horvath & Symonds, 1991). Additionally, the findings of this study did not necessarily support Bordin’s original conceptualization of the working alliance. It is possible that Bordin’s original conceptualization is no longer applicable, perhaps due to systematic changes that have occurred over time (the original conceptualization was developed in 1976). Potential changes include (a) the approach to care (e.g., patient-centered), (b) the application of care (e.g., shorter appointments, consumerism), (c) physician training, or (d) patient characteristics (e.g., aging of the population, patients taking a more active role in care). Alternatively, it could be that the WAI and the WAI-SF do not accurately distinguish between tasks and goals on the subscales. Either way, it is clear that the current conceptualization of working alliance warrants further investigation.

Research Implications
The sample for this study was strictly comprised of female patients at a family medicine practice in an attempt to reduce potential confounding factors. Therefore, the conclusions are limited to this population. It would benefit the medical field to conduct similar research with both sexes and different medical populations. Past research has consistently identified differences in the general communication styles of males and females in medical encounters (Gabbard-Alley, 1995; Hall et al., 1994). Further, patient sex has been shown to influence physician perceptions of patients, which could hold implications for both communication and working alliance. For example, Wilcox (1992) found that female patients were perceived to be less ill, yet tended to report more physical symptoms compared to males and that physicians were more likely to discuss affective and emotional issues with female patients. The present study was unable to investigate sex differences in relation to the working alliance, but given that past research has consistently identified differences in the communication styles and emotional attachment between males and females, this seems to be a topic worth investigation.

A moderate portion of the participants in this study identified as “unspecified” in terms of race. Therefore, the impact of race could not be examined. Recommendations for future research include the examination of race, ethnicity, sex, and any potential interactions between the variables. Demographic variables and their influence on communication and/or working alliance are important factors to examine, given the increasingly diverse population that physicians in the United States will continue to encounter.

Another suggestion for future research would be to examine the physician-patient relationship over time (e.g., longitudinal study). This study was cross-sectional, therefore
no conclusions could be made regarding how communication and/or the working alliance may be affected over time. Past research has suggested that physician-patient communication may differ according to the amount of time the physician and patient have been working together (Haug, 1996a). For the present study, the number of times that a patient had previously seen the physician was limited to only the previous year. There is extensive psychotherapy literature that suggests the working alliance is enduring and evolves over time (Barber, Connolly, Crits-Christoph, Gladis, & Siqueland, 2000; Fuertes et al., 2007; Horvath & Symonds, 1991; Koch & Rumrill, 1998). A longitudinal design could investigate whether similar trends or patterns were present in physician-patient relationships.

Research that is conducted in a more traditional family medicine practice (i.e., not a residency program) might find different results; however, due to the fact that there is currently no “gold standard” in terms of a communication model for family medicine training, further research in training settings is warranted. For example, in the present study, only 3rd year residents were used, but an alternative approach would be to examine whether communication differed significantly between adults and older adults for 1st, 2nd, and 3rd year residents and compare them to find out whether a systematic pattern emerged as a function of experience.

In terms of working alliance, only the patient perspective was considered. Future research could examine the perspective of the physician in addition to the patient to offer richer information regarding the alliance and to examine whether any discrepancies exist. The combined perspectives might add to the validity of the role that working alliance plays in the physician-patient relationship. Regardless, the current study provides at least
some preliminary evidence that working alliance and communication are related in the context of the physician-patient relationship. This is a generally accepted notion in the mental health field, but it appears that the conceptualization and utility of the working alliance is relatively uncommon in the medical literature. Therefore, it might be beneficial for the medical field to expand its research to examine relational aspects that have been established as influential within the mental health literature. As in the case of the working alliance, there seems to be an opportunity for the mental health literature to inform medical research.

Clinical Implications

As stated earlier, the biopsychosocial approach to care is becoming more widely accepted in the medical field. Subsequently, a natural link between health care and psychology has been established. Psychologists and other mental health professionals have begun to take on a number of roles within the medical field, including therapy, advocacy, education, and research (Roemer et al., 1998). This marriage of the two fields is not a new concept. The subfield of health psychology has been making educational, scientific, and professional contributions to the health field, including prevention and treatment for over 20 years (APA, 2007; Matarazzo, 1980). As the need for healthcare professionals continues to grow, along with the diversity of the population (e.g., age, SES, ethnicity, etc.), so do the potential roles of psychologists within medical settings. In terms of clinical skills, psychologists are experts in communication and can offer training in the basic counseling and interviewing skills that are needed in medical training. Additionally, psychologists have been trained in the area of working alliance and can teach the components and as well as the process of building an alliance with patients.
Future research in the areas of physician-patient communication and working alliance in medical settings will continue to inform the clinical practice for medical educators as well as health psychologists working or consulting in medical settings.

*Training.* The responsibility of training physicians in issues of communication often lies largely on the shoulders of residency training programs and continuing education programs. Many medical education programs are now hiring behavioral scientists (often psychologists) to develop training curriculum, coordinate experiential activities, teach interpersonal skills (including diversity awareness), and evaluate the communication skills of residents (Wroth & Pathman, 2006). The importance of quality communication training is important as it has been shown to impact patient health, treatment compliance, working alliance, and cost of medical care.

The BSTRC was created by a behavioral scientist at FMR and was based on the Kalamazoo Consensus model. The model essentially provided specific task-based guidelines for interviewing skills. Task-based approaches to teaching medical communication skills are widely supported in the literature (Smith et al., 2000). Smith et al. proposed that residents should be trained based on behaviorally-defined, step-by-step, interview guidelines, including small talk and other exchanges that can portray a sense of warmth and build rapport. This is particularly important when considering that rapport overlaps with working alliance. Thus, it might be that certain parts of the interview (i.e., greeting, small talk, non-verbal) contribute more to working alliance, compared to other aspects (e.g., information-gathering). From a training perspective, it would be important to further investigate which parts of the communication model (or specific behaviors) contribute most to the working alliance. Again, the medical field could draw from the
mental health literature to begin to explore what specific communication behaviors are correlated with a higher degree of working alliance in the relationship. Based on results from the present study, the level of communication adherence appeared to be better explained by responses to the bond subscale, compared to responses to the task subscale. The interesting finding was that the level of physician-patient emotional bond did not differ between adults and older adults. This suggests that the emotional bond is more important than task for both adults and older adults. These finding are in contrast to what past research had suggested. For example, Callahan et al., (2004) maintained that older adults elicit and value visits with more emphasis on emotional connection to the physician and less emphasis on information giving, particularly as they move into the range of “old old” (75 to 84) and “oldest old” (85 years and older). Future research could compare the subgroups of older adults to examine patient preferences and differences explore potential differences in the physician-patient working alliance.

In terms of communication adherence, results from the present study suggested that physicians were consistent in their application of communication skills. At first look, the consistency across age groups seems reassuring. However, past research suggests that older adults have different expectations and needs when it comes to communication and suggests that physicians should be using a different set of skills with older adult patients. For example, older adult patients may be more accepting of the traditional physician-patient relationship in which the physician assumes authority, largely based on generational differences. As a function of having grown up with this traditional physician-patient relationship a number of older adults have learned to assume the role of the passive patient, which might make following the communication model more
challenging (Bradley et al., 2001). Other research has demonstrated that the majority of older adult patients prefer a supportive environment with stimulated interpersonal interaction (Ryan & Butler, 1996).

There is a strong emphasis on diversity in the mental health literature and older adults are one of the groups that have been widely studied, especially over the past 20 years (Bernstein, 1990; Carstensen, 2000; Landreth & Berg, 1980). This research has provided support for the use of a age-specific communication models when conducting counseling or psychotherapy with older adults, due to communication differences and their unique needs. The research findings that have suggested that older adults have different preferences and expectations for the medical encounter (Bradley et al., 2001; Ryan & Butler, 1996) raises the question of whether or not a separate communication model for older adults should be considered, for the same reasons noted above.

**Evaluation.** There are a number of instruments that are available to evaluate physician-patient communication; however only a limited number address the ACGME competencies. Of those identified on the ACGME Website (2007), there are rating forms that are completed by patients (e.g. ABIM Patient Assessment, Calgary-Cambridge Observation Guide, Physicians’ Humanistic Behaviors Questionnaire), those that are rated by standardized patients (e.g., Interpersonal and Communication Skills Checklist, The Humanism Scale, SEGUE), and those rated by observers (e.g., Davis Observation Code, SEGUE, Roter Interactional Analysis System). For the purpose of medical communication training, the instrument used to evaluate communication skill level should be congruent with the model that the physician was trained on. For this study, the Kalamazoo Essential Element model served as the theoretical grounding for the
development and use of the BSTRC. Therefore, it was the appropriate evaluation
instrument to assess adherence to communication behaviors for the purpose of this study.

Based on results of the present study, it seems that the BSTRC may be an appropriate
evaluation instrument for use for adults and older adults in terms of documenting
communication behaviors; however, there is currently no agreed upon classification
system (e.g., poor, fair, good, very good, excellent) for indicating overall communication
performance. Therefore, it is difficult to make any attributions as to the quality or
effectiveness of communication. In order for medical residents to be able to improve their
communication skills, they may be able to monitor their progress over time, by
comparing their scores to their baseline; however, without a classification system, these
numbers hold virtually no meaning. Another suggestion would be to combine the BSTRC
evaluation with a measure of patient outcome to determine the effectiveness of
communication skills.

As mentioned previously, the problem with some of the past communication
studies was the lack of a sound theoretical grounding for choosing research variables and
selecting an appropriate assessment that was congruent with the theory or model. In terms
of evaluating physician communication skills, a similar rule applies. Whatever form of
evaluation is selected, it is important for it to be compatible with the primary model used
in training. In some cases, this could mean that medical educators are faced with the
dilemma of using an assessment with less than desirable psychometrics or creating a new
assessment, which was the reason that the BSTRC was developed.

Most of scales mentioned above, including the BSTRC, do an adequate job of
quantifying a physician’s communication skill. This study, along with other research
suggests there seems to be something beyond behaviorally-based communication occurring within a physician-patient relationship. Therefore, it might be worthwhile for behavioral scientists within medical training sites to consider adding a component into evaluation that would measure the potentially therapeutic component of the relationship, such as empathy, trust, or working alliance. Epstein (2000) supports the idea of evaluating the nature of the physician-patient relationship and believes that to promote healing, the physician and patient must reach a deeper sense of “connectedness.”

**Conclusion**

In conclusion, the examination of communication and working alliance within the physician-patient relationship is important to the advancement of research, theory, and practice. Professionals working in medical education or practice settings will continue to face the task of preparing physicians to be able to communicate with a diverse range of patients and as the number of older adults continues to increase in the United States, physicians will need to be prepared to meet the needs of these patients. This is particularly true of family medicine physicians, who traditionally follow patients through much of the life-span and therefore require the ability to adapt communication and interpersonal interactions to meet developmental changes. Many researchers (Hummert & Nussbaum, 2001; Hummert et al., 1994; Nussbaum & Coupland, 2004; Scovnern, 2001) have found that the therapeutic aspects of the physician-patient relationship, such as the working alliance hold implications for health outcomes, including the outcome of medical and pharmacological treatment. Additionally, they impact patient satisfaction and their overall quality of life (Hummert & Nussbaum). This seems particularly true for older adults, who tend to place more value in the relationship with their physician,
compared to technical skill (Callahan et al., 2004). This is why it is important to continue
to examine communication models used in medical training programs in addition to the
working alliance and other relational aspects of the physician-patient relationship. Further
investigation into effective communication across the life span will help the medical field
better meet the health needs of the aging population. Also, the additional examination of
specific variables that contribute to a better working alliance between physicians and
patients may inform medical training and practice standards. Although this study was
considered preliminary, due to its small sample size and other limitations, it is hoped that
it provided some groundwork on which to build future research in the areas of aging,
communication, and the working alliance.
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<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>TYPE/NAMES</th>
<th>CHECK IF ACTIVE CONDITION IN EMR</th>
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<tbody>
<tr>
<td>Heart Disease</td>
<td>Coronary Heart Disease</td>
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<td>Heart Attack/Myocardial Infarction</td>
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<td>Arrhythmia</td>
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<td>Ventricular or atrial fibrillation</td>
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<td>Cardiomyopathy</td>
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<td>Heart failure</td>
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<td>Peripheral Arterial Disease</td>
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<td>Rheumatic heart disease</td>
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<td>Stroke</td>
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<td>Hemorrhagic stroke</td>
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<td>Cerebral or subarachnoid Hemorrhage</td>
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<td>Transient Ischemic Attack</td>
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<td>Cancer</td>
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<td>Uterine Sarcoma</td>
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<td>Vaginal</td>
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<td>Vulvar</td>
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<td>Fibromyalgia</td>
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<td>Gout</td>
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<td>Lupus</td>
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<td>Chronic Obstructive Pulmonary</td>
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<td>Disease</td>
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<td>Chronic bronchitis</td>
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<td>Asthma</td>
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<td>Diabetes</td>
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<td>Type I</td>
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<td>Type II</td>
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<tr>
<td>Task</td>
<td>Subtask</td>
<td>Definition</td>
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<tr>
<td><strong>Rapport/Doctor-Patient Relationship</strong></td>
<td>Welcomes patient by name</td>
<td>Uses patient’s name within first 2 minutes of session</td>
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<td>Demonstrates appropriate nonverbal greeting</td>
<td>Nonverbal exchange in which physician acknowledges patient</td>
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<td>Matches patients verbal behavior (throughout session)</td>
<td>Uses style or pattern of speech which complements patient’s verbal behavior/speech.</td>
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<td></td>
<td>Engages in brief social conversation</td>
<td>Verbal communication of topics unrelated to diagnosis, treatment, or management of health condition(s)</td>
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|                               | Acknowledges all people in room                                           | Greets any person accompanying patient                                                        | “Hi, I am Dr…”
If pt. is only person and physician greeted him/her, check item |              |
| **Open the Discussion/Establish Focus** | Elicits the patient’s full agenda                                        | Inquires about chief complaint or previous conditions. Establish all reasons for visit;      | “Why are you here today?” Refers to chart, “I see that…” “Is there anything else we need to get to today?” |              |
|                               | Allows patient to finish initial comments (chief complaint) without interruption | Physician does not speak until patient has finished sentence or phrase or patient pauses for over 5 seconds. | “Let’s look at ….first”, “We’ve got about 15 minutes today, so first…” “I’m going to ask you a series of questions now” “after I listen to your lungs, we will get the nurse to do a blood draw…” |              |
|                               | Negotiates a prioritized agenda                                           | Structures session in terms of goals, objectives of session; Explains what will happen next; Determine what will be accomplished during session | “Let’s look at ….first”, “We’ve got about 15 minutes today, so first…” “I’m going to ask you a series of questions now” “after I listen to your lungs, we will get the nurse to do a blood draw…” |              |
|                               | Maintains rapport and personal connection during agenda setting (throughout session; answer after viewing entire session) | Maintain positive regard in the client relationship. No significant disruption to rapport connection during interaction. | Respect and warmth Nonjudgmental attitude Authenticity or congruence |              |
| **Gathering Information**     | Uses open ended questions and closed questions appropriately               | Asks questions which are relevant to and gathering facts about symptoms (e.g., complaint(s), severity, frequency Balance between open and closed ended questions. | Open: Questions leads to more than ‘yes’ or ‘no’ response; “Can you say more about…?” “How much weight have you lost?”
Closed: Only elicits ‘yes’ or ‘no’; “Have you had trouble sleeping?”
*Open and Closed both must be checked in order to score 1 for this item | Open
Closed |
|                               | Structures, clarifies, and summarizes information                         | Physician states the essence of “client talk” in summary form. Summarizes information presented; Helps overly talkative clients speed up, clarify, and stop repeating the same facts and/or stories. | Keeps patient on task.  “Can you go back to…?” “So you have been experiencing problems with sleep, appetite, and are concerned about medications” |              |
|                               | Demonstrates active listening with both verbal and nonverbal techniques | Physician uses posture which suggests involvement with patient, “open” posture; Control distractions (avoid focus on computer); faces patient squarely, leans forward, open arms, eye contact, minimal encouragers | (um-hmm, yes, I see); repeat phrases (“everyone is pressuring you…”)
Reflection “(it sounds like…)” use of silence nodding |              |
<table>
<thead>
<tr>
<th>Understands Patient’s Perspective</th>
<th>Explores mood, beliefs, concerns, and expectations about health, symptoms, and circumstances</th>
<th>Acknowledges and responds to ideas, feelings, and values related to health (physical and mental) and illness.</th>
<th>Sharing Information</th>
<th>Reaching Agreement</th>
<th>Providing Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Considers and explores when appropriate, impact of: Family, culture, gender, age, SES, spirituality</td>
<td>Inquires about psychosocial issues; asks patient about family members and other social support Adapt your style to suit different individuals / cultures. Respecting the first language of the client and ensuring careful translation.</td>
<td>Acceptance of patient defined by positive regard for his or her humanness and uniqueness</td>
<td>Uses language patient can understand</td>
<td>Encourages patient to participate in decision to extent patient desires</td>
<td>Asks if the patient has other issues or concerns</td>
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<td></td>
<td>“Is there anything at work, home that is causing you stress?” “Who do you consider to be your support system? Friends, Family?” “Are your parents still living?” “Have you felt well enough to attend church?” “Has anyone in your family noticed any changes?”</td>
<td>Acceptance of patient defined by positive regard for his or her humanness and uniqueness</td>
<td>Uses specific, clear, direct language that facilitates patient education and understanding</td>
<td>Elicits patient’s opinions and/or decisions</td>
<td>Elicits any concerns that have not been addressed</td>
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<td></td>
<td>“Do you have an idea of what might be causing these symptoms?” “What does this mean to you?” “What sense do you make of it?” “How have your values been implemented?” “What is important (unimportant) to you?” Which of your values support/oppose that? How do you feel about….? How has your mood been?</td>
<td>Physician refrains from forcing own values or belief on client. Assume a value of neutrality. Avoids appearing “judgmental” towards patient or patient’s ideas. “I understand how you could feel that way” “I appreciate you sharing that with me”</td>
<td>Uses evidence-based medicine as appropriate</td>
<td>Determines patient’s level of commitment to treatment plan and considers available resources.</td>
<td>“Would you be more comfortable….or …..?” “What do you think about the plan?” “What do you think about surgery?”</td>
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<tr>
<td></td>
<td>Solicit information regarding client’s feelings, beliefs and expectations about overall evaluation and treatment process</td>
<td>Physician cites rationale for diagnosis or treatment and connects to client problem(s)/situation</td>
<td>Avoid jargon when explaining procedures or treatment (side effects, risks) use clients’ language</td>
<td>Ensures patient understanding and allows for immediate corrections or clarifications of misunderstandings</td>
<td>“Do you think you can stick to that? “Do you see yourself remembering to take the medication 3 times a day? “how does that sound?” Identify potential barriers and explore solutions Acknowledge progress and challenges; attitude time resources</td>
</tr>
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<td></td>
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<td>Give feedback; identify problem behaviors; Provide information about evidence of effective treatment “We have seen improvement in many patients who have had this procedure.”</td>
<td>Checks for understanding</td>
<td>“Does that make sense to you?” “Do you understand the plan” Checks pt. understanding as he/she is explaining procedure</td>
<td>Provide information on community support. Talk with patient about family support. Talk with family members or caregivers re: treatment plan. Offers written material or online resources.</td>
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<tr>
<td></td>
<td>Solicit information regarding client’s feelings, beliefs and expectations about overall evaluation and treatment process</td>
<td>“Do you have any questions about anything we talked about today” “Unless you have questions, let’s move on”</td>
<td>Encourages questions</td>
<td>Elicits questions from patient</td>
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<td>Physician assists patient in identifying available resources to support treatment plan.</td>
<td>“Would you be more comfortable….or …..?” “What do you think about the plan?” “What do you think about surgery?”</td>
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<td></td>
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<td>Checks for understanding</td>
<td>Ensures patient understanding and allows for immediate corrections or clarifications of misunderstandings</td>
<td>“Does that make sense to you?” “Do you understand the plan” Checks pt. understanding as he/she is explaining procedure</td>
<td>Encourages questions</td>
<td>“Do you have any questions about anything we talked about today” “Unless you have questions, let’s move on”</td>
</tr>
<tr>
<td></td>
<td>Encourages questions</td>
<td>Elicits questions from patient</td>
<td>Physician assists patient in identifying available resources to support treatment plan.</td>
<td>Physician assists patient in identifying available resources to support treatment plan.</td>
<td>“Would you be more comfortable….or …..?” “What do you think about the plan?” “What do you think about surgery?”</td>
</tr>
<tr>
<td></td>
<td>Physician identifies time until next appointment as well as rationale for follow up.</td>
<td>Physician identifies time until next appointment as well as rationale for follow up.</td>
<td>Physician identifies time until next appointment as well as rationale for follow up.</td>
<td>Physician identifies time until next appointment as well as rationale for follow up.</td>
<td>“Would you be more comfortable….or …..?” “What do you think about the plan?” “What do you think about surgery?”</td>
</tr>
</tbody>
</table>
Appendix C

Physician-Patient Communication Project

Observer Training
<table>
<thead>
<tr>
<th>Activities</th>
<th>ACGME Human Behavior/Mental Health Competencies/Topics</th>
<th>Frequency/Estimated training hours</th>
</tr>
</thead>
</table>
| Noon Conference     | 1. Diagnosis and management of DSMIV disorders across the life span  
                      2. Psychological correlates of medical disorders  
                      3. Psychopharmacology  
                      4. Alcoholism and other substance abuse  
                      5. Physician/patient relationship  
                      6. Patient interviewing skills  
                      7. Counseling skills  
                      8. Normal psychosocial growth and development in individuals and families.  
                      10. Domestic violence of all types across the life span | Monthly/30 hrs                   |
| Balint Group        | Physician/patient relationship; Colleague communication                                                                                                                                                                                                                                                        | Every 6 weeks/20 hrs              |
| Intern GME Orientation | Topics: Sleep Deprivation; Self-Care and Resilience                                                                                                                                                                                                                                                        | 2 hrs                             |
| Self-Assessment     | Identify level of comfort and competency in above topics                                                                                                                                                                                                                                                        | 2 hrs                             |
| Intern Retreat      | Topics: Self-Care; Self-Awareness; Team building                                                                                                                                                                                                                                                             | 8 hrs                             |
| Behavior Science Tape Reviews | Physician-Patient relationship and communication; Evaluation of patient’s psychosocial and behavioral needs.                                                                                                                                                                                                 | 3 hrs                             |
| Psychosocial Home Visit | Physician-Patient relationship and communication; Evaluation of patient’s psychosocial and behavioral needs.                                                                                                                                                                                                 | 2 hrs                             |
Website: [www.ballhospital.org/bmhfamilymedicine/index.html](http://www.ballhospital.org/bmhfamilymedicine/index.html)

<table>
<thead>
<tr>
<th>Psychosocial FMRC Visit</th>
<th>Physician-Patient relationship and communication; Evaluation of patient’s psychosocial and behavioral needs; Behavioral Intervention</th>
<th>10 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychosocial Inpatient Rounds</td>
<td>Physician-Patient relationship; Evaluation of psychosocial and behavioral needs; Discharge planning.</td>
<td>2 hrs</td>
</tr>
<tr>
<td>Behavior Science Consultation/Referral Strategies</td>
<td>Diagnostic clarification and treatment planning for FMRC patients with behavioral health needs; Screening, interviewing and counseling skills.</td>
<td>Monthly/varies</td>
</tr>
<tr>
<td>Core Curriculum</td>
<td>ACGME General Competencies/Sample topics: Colleague communication; Delivering Bad News.</td>
<td>Monthly lecture and small group discussion/60 hrs</td>
</tr>
</tbody>
</table>
| Rotation Specific Behavior Science Activities | CM: Dr. Daniel  
Geriatrics: Dr. Daniel  
*Pediatrics: Dr. Goswami*  
Geriatrics: Drs. Spangler, Dowell  
FM: Dr. Bullis  
Behavior Science Project | 20 hrs |

Staff: Linda Daniel, Ph.D: Behavioral Scientist  
James McKenzie, Ph.D., Research Consultant
PHYSICIAN-PATIENT VIGNETTE

For this exercise you will need to use the BSTRC (pg. ). As you read the vignette, place a tally mark next to each subtask each time that it occurs. Some subtasks will occur more than once during an interaction. Place a tally mark next to the subtasks EVERY TIME IT OCCURS. Not all subtasks will occur within an interaction, so some subtasks will have no tally marks.

Dr: (enters examining room and shakes hands) Hello
Pt: Hi. I wasn’t sure how much longer I was going to have to wait.
Dr: If it is okay with you, I’ll close the door so we can hear each other better and have some privacy.
Pt: Sure, that’s fine.
Dr: Is there anything I can help with before we get started?
Pt.: No.
Dr: I’ve got a lot of questions to ask and that we need to do a physical exam. Before we get started, though, it’s most important to find out what you want to cover today.
Pt: It’s these headaches. They start behind my eye . . . My boss is really getting upset with me. He thinks that I don’t have anything really wrong with me and says he’s going to report me . . .
Dr: That sounds difficult and really important. Before we get into the details, though, I’d like to find out if there are any other problems you’d like to look into today so we can cover everything that you want to. We’ll get back to your headaches and your boss after that—that’s 2 things (holding up 2 fingers). Is there anything else?
Pt: . . . No. The headache is the main thing.
Dr: So, we want to cover the headaches and the problem they cause at work . . . . Is that right?
Dr: So, that’s a lot going on, how are you doing with it?
Pt: Oh, okay I guess.
Dr: (silence)

Pt: At least now.

Dr: (sits forward slightly) Uh-huh.

Pt: Things weren’t so good last week, though, when I made the appointment.

Dr: Mmmm.

Pt: That’s when my boss really got on me. Well, he’s kind of uptight anyway, but he was saying how I was upsetting the whole office operation because I was off so much . . .

Dr: I see.

Pt: These headaches are right here (points at right temple) and just throb and throb. And I get sick to my stomach and just don’t feel good. All I want to do is go home and go to bed . . .

Dr: Say more about the headaches.

Pt: Well, I never had any trouble until I got here.

Dr: How long’s that been?

Pt: Only 4 months. The headache started about 3 months ago.

Dr: You mentioned your boss.

Pt: It seems like every time I see him any more I get one of these headaches. I sometimes just get a little nauseated but, if he’s around much, there’s the headache.

Dr: Keep going . . .

Pt: . . . I’m on the road a lot. No trouble then, either. Except one time when he called me.

Dr: Tell me more about your boss.

Pt: Well, he’s been there a long time and I’ve replaced him in every way there is, except he is still in charge, at least in his title. He yells at everybody. Nobody likes him and he doesn’t do much. That’s why they got me in there, the Board, so something would get done. These headaches have all come since I got this job—right here. They throb behind my eye and . . .
Dr: Wait a second, you’re getting ahead of me. You say he’s in charge, but you are the lead attorney?

Pt: Yeah, they are phasing him out but he’s still there in the meantime. Who knows how long it’ll take. I hope I last . . . Sounds kinda bad, huh?

Dr: How do you feel about that?

Pt: Oh, I don’t know. The headache is what bothers.
Dr: But how’d you feel, you know, personally, your emotions . . .
Pt: . . . Well, I just want to throw something at him. He makes me so mad . . .
Dr: . . . So you get mad when he gets on you?
Pt: Yeah, he really gets me mad. I just get so furious I could scream sometimes (clenches fist and strikes table firmly).
Dr: . . . It sure makes sense. It seems like you’ve done so much there to help and all you get is grief from him.
Pt: He sure does. Just talking about it gets me upset and gives me a headache right now.
Dr: I can imagine.] Let’s work on this together. So, you’re in a new job that hasn’t worked out quite like you were led to believe and that has caused you some upset with at least a couple people and quite bad headaches. Do you want to add anything?
Pt: No. I think you’ve pretty much got it.
Dr: If it’s okay then, I’d like to shift gears and ask you some different types of questions about your headaches. . . .
Pt: Sure, that’s what I came in for.
Dr.: When did the headaches start?
Pt: 3 months ago
Dr. Was there any injury to bring it on?
Pt: No
Dr.: How often do you have pain?
Pt.: It was every few days, but now it’s almost daily
Dr.: Describe the pain.
Pt.: Dull and achy.

Dr.: Does it interfere with your life?
Pt.: After an hour at your desk you get stiff. Haven’t been able to do your usual exercise. Can’t bend over to pick things up. Housework is painful (like doing laundry). Shifting painful when driving.

Dr.: Any other symptoms beside pain?
Pt.: Numbness and tingling in left leg, and left leg feels weak.

Dr.: What medications have you tried?
Pt.: None now. Tried a non-steroidal anti-inflammatory (Motrin, over-the-counter), hasn’t really helped much so just take it on an off.

Dr.: Do you exercise?
Pt.: No.

Dr.: OK, now I am going to do a brief physical exam.

(conducts physical exam)

Dr.: Well, it could be that the headaches are being cause by something purely physiological, but based on what you told me, I am also concerned that your stress level at work may be contributing to the frequency of the headaches. What do you think?
Pt.: Well, probably.

Dr.: I would like to see you try to relieve some stress. Are there any hobbies that you enjoy or things that you can do to relax?
Pt.: Well, I enjoy listening to music –

Dr.: OK, well, maybe take a little time each day and go to a quiet place where you can just listen to music and unwind and let other people know so that they don’t interrupt you. Can you do that?
Pt.: I will try, but I am so busy
Dr.: OK, well try it and next time we talk we will see if it makes a difference. In the meantime, I am going to prescribe a medication that you can take in the case that you have another headache. When you notice one of these headaches beginning, take one capsule with a full glass of water. Do not drink any alcohol when you take this medication.

Pt.: OK

Dr. Do you have any questions about how to take the medication?

Pt. NO

Dr.: Is there anything else today?

Pt. No- where do I pick up my prescription?.

Dr. You can pick it up at the nurses station on your way out. While you are there, go ahead and schedule your next appointment. I would like to see you back in a month to see whether or not the headaches have decreased. If you have any problems before then, you may call.
Training clips

Clip1:
http://www.youtube.com/watch?v=CrqNa9a9PZY&feature=channel_page

Clip 2:
http://www.youtube.com/watch?v=u1x9M_S8fCw&feature=PlayList&p=2AEBA88F69B7336A&playnext=1&playnext_from=PL&index=9

Clip 3:
http://www.youtube.com/watch?v=u1x9M_S8fCw&feature=PlayList&p=2AEBA88F69B7336A&index=9

Clip 4:
http://www.youtube.com/watch?v=PIQKubKaeFA&feature=channel_page

Clip 5:
http://www.youtube.com/watch?v=SnJMzXcYfBI&feature=channel_page
Appendix D

**Instructions:** On the following page there are sentences that describe some of the different ways you might think or feel about your doctor.

Below each statement there is a five point scale:

```
1                        2                     3                     4                     5
Strongly disagree     disagree         neutral             agree         strongly agree
```

If the statement describes the way you feel (or think) circle the number 5; if it never applies to you, circle the number 1. Use the numbers in between to describe the variations between these extremes.

PLEASE RESPOND TO EVERY ITEM.

1. **My doctor and I agree about the things I will need to do to help improve my situation.**

   1                        2                     3                     4                     5
   Strongly disagree     disagree         neutral             agree         strongly agree

2. **What I am doing with my doctor gives me new ways of looking at my problem.**

   1                        2                     3                     4                     5
   Strongly disagree     disagree         neutral             agree         strongly agree

3. **I believe my doctor likes me.**

   1                        2                     3                     4                     5
   Strongly disagree     disagree         neutral             agree         strongly agree

4. **My doctor does not understand what I am trying to accomplish.**

   1                        2                     3                     4                     5
   Strongly disagree     disagree         neutral             agree         strongly agree
5. I am confident in my doctor’s ability to help me.

1  2  3  4  5  
Strongly disagree  disagree  neutral  agree  strongly agree

6. My doctor and I are working towards mutually agreed upon goals.

1  2  3  4  5  
Strongly disagree  disagree  neutral  agree  strongly agree

7. I feel that my doctor appreciates me.

1  2  3  4  5  
Strongly disagree  disagree  neutral  agree  strongly agree

8. We agree on what is important for me to work on.

1  2  3  4  5  
Strongly disagree  disagree  neutral  agree  strongly agree

9. My doctor and I trust one another.

1  2  3  4  5  
Strongly disagree  disagree  neutral  agree  strongly agree

10. My doctor and I have different ideas on what my problems are.

1  2  3  4  5  
Strongly disagree  disagree  neutral  agree  strongly agree

11. We have established a good understanding of the kind of changes that would be good for me.

1  2  3  4  5  
Strongly disagree  disagree  neutral  agree  strongly agree

12. I believe the way we are working with my problem(s) are correct.

1  2  3  4  5  
Strongly disagree  disagree  neutral  agree  strongly agree
# Appendix E

## The SEGUE Framework

<table>
<thead>
<tr>
<th>Set the Stage</th>
<th>Patient</th>
<th>Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Greet pt. appropriately</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>2. Establish reason(s) for visit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Outline agenda for visit (e.g., “anything else”, issues, sequence)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Make a personal connection during visit (e.g., go beyond medical issues at hand)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Maintain pt’s privacy (e.g., close door)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elicit Information</td>
<td>n/a</td>
<td>Yes</td>
</tr>
<tr>
<td>6. Elicit pt’s view of health problem and/or progress</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Explore physical/physiological factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Explore psychosocial/emotional factors (e.g., living situation, family relations, stress)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Discuss antecedent treatments (e.g., self-care, last visit, other medical care)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Discuss how health problem affects pt’s life (e.g., quality-of-life)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Discuss lifestyle issues/prevention strategies (e.g., health risks)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Avoid directive/leading questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Give pt opportunity/time to talk (e.g., don’t interrupt)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Listen. Give pt undivided attention (e.g., face pt, verbal acknowledgement, nv feedback)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Check/clarify information (e.g., recap, ask “how much is that?”)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Give Information</td>
<td>n/a</td>
<td>Yes</td>
</tr>
<tr>
<td>16. Explain rationale for diagnostic procedures (e.g., exam, tests)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Teach pt about his/her own body &amp; situation (e.g., provide feedback from exam/tests, explain anatomy/diagnosis)</td>
<td></td>
<td></td>
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<tr>
<td>18. Encourage pt to ask questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Adapt to pt’s level of understanding (e.g., avoid/explain jargon)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand the Patient’s Perspective</td>
<td>n/a</td>
<td>Yes</td>
</tr>
<tr>
<td>20. Acknowledge pt’s accomplishments/progress/challenges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Acknowledge waiting time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Express caring, concern, empathy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Maintain a respectful tone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>End the Encounter</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>24. Ask if there is anything else pt would like to discuss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Review next steps with pt</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

**Visit Date:** / /  **Review Date:** / /  **Reviewer**

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