Personal Health Behaviors and Health Counseling Practices of Professional Psychologists and Trainees Across Setting and Population Types

by

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Abstract

Personal Health Behaviors of Professional Psychologists and Trainees Across Types of Settings
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This study examined the health behaviors and health counseling practices among psychologists and psychology trainees, focusing on a variety of settings of practice. Both psychologists and trainees self-reported practicing a greater number of health enhancing behaviors compared to equivalent U.S. adults. Results indicated a higher rate of health counseling activity when psychologists and trainees endorsed counseling on health behaviors as more important, and additionally when having more training in health counseling. The results of this study expand upon the growing literature related to health professionals’ personal health behaviors and focuses on population health needs for improved health behaviors. Future research will serve to support and expand the research of variables impacting psychologists and trainees’ health counseling activity across specific settings.
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Introduction

Personal health behaviors have long been acknowledged as imperative in preventing chronic disease and improving one’s general wellness. Health behaviors are defined by the Center for Disease Control (CDC) as “an action taken by an individual or group of individuals to change or maintain their health status or prevent illness or injury (2014a). The CDC additionally recognizes the specific focus on health habits, as chronic diseases are identified as the most frequent, yet preventable of all health issues. Further, the common chronic diseases of heart disease, stroke, and diabetes are among the costliest health problems in the United States.

As health care costs continue to rise, psychologists can offer vital services in order to help individuals modify their current health habits. Psychologists are trained to conceptualize and understand how behaviors are originally formed, maintained, and can be altered (Stachnik, 1980). With the help of psychological intervention on health behaviors, the frequency and severity of preventable diseases can potentially be reduced, thus improving the overall wellness of individuals (Wendt, 2005). Additionally, psychologists can offer the invaluable service of facilitating lifestyle changes that minimize risk factors of chronic health issues by assessing behavioral patterns and influences, recognizing and problem solving the patients’ resistances to change, enhancing motivation and self-efficacy, and teaching self-management and other improvement skills (Burton, Pakenham, & Brown, 2010).
Wampold (2001) found that the individual practitioner and the therapeutic relationship play a significant role in treatment outcomes. Therefore, in order to improve the effectiveness of psychotherapy, it is important to evaluate practices of the psychologist or trainee and the variables that may influence a practitioner’s health-related counseling interventions (Norcross & Guy, 2007).

Current research in the field demonstrates one predictor of health promotion counseling by healthcare professionals is if the provider engages in healthy lifestyles practices themselves. The majority of what is known about the relationship between personal health practices and health related counseling has been researched in healthcare populations such as physicians, nurses, and medical students. However, less is known about allied health professionals, such as psychologists and trainees, and the influence of their personal health behaviors on counseling activities. Furthermore, the current research has not indicated specific settings in which these allied health professionals are practicing, and as a result, it is unknown if the populations with the greatest need for health behavior interventions are receiving those services.

The purpose of the present study is to further the research investigating the personal health behaviors and health counseling practices of psychologists and trainees across types of settings. Specifically, the study will first examine the variables related to the frequency of counseling on specific health behaviors, and determine the settings in which practitioners can provide this valuable service, particularly to underserved populations. Additionally, the study will focus on how psychologists and psychology
trainees’ health behaviors compare to a socioeconomically equivalent U.S. adult population, by replicating findings from a study conducted by Yearwood (2014). The application of Yearwood’s study served to discover personal health behaviors and identify other professional variables that impact psychologists’ and trainees’ health counseling activities.
Review of the Literature

Research in health psychology has examined psychologists and trainees on their personal health behaviors. This review of literature focuses on the personal health habits of healthcare professionals and trainees who work in either inpatient or outpatient settings. It additionally addresses any differences of health habits in professionals and trainees working with primarily adults versus primarily children, and how these personal health behaviors affect the counseling process.

The Centers for Disease Control and Prevention (2011) referred to health behaviors as actions taken “to change or maintain one’s health status, or to prevent illness or injury.” Practicing health behaviors serves to influence individual health and overall wellness, thus increasing one’s overall quality of life. Over time, researchers and professionals have attempted to categorize the umbrella term “health behaviors” into more specific classifications. Kasl and Cobb (1966, page 18) focused on the motive of illness prevention when defining health behaviors as “any activity undertaken by a person believing himself to be healthy for the purpose of preventing disease or detecting it in an asymptomatic stage.” Related concepts include illness behavior and sick-role behavior. Parsons (1951, p. 24) coined illness behavior as “any activity, undertaken by a person who feels ill, to define the state of his health and to discover a suitable remedy.” Sick role behavior refers to “an activity undertaken by those who consider themselves ill, for the purpose of getting well” (p. 145).
The Health Belief Model was formulated primarily to explain and predict preventative health-related behaviors (Rosenstock, 1974). This model suggests that our engagement in health-promoting behaviors is influenced by our self-efficacy. As first defined by Albert Bandura, self-efficacy refers to one's belief in their ability to succeed in specific situations or to accomplish a task (Bandura, 1997a). The Health Belief Model additionally addresses one's beliefs about health problems, and perceived benefits of actions and barriers to taking action. A meta-analysis conducted in 2010 confirmed the crucial role of self-efficacy in terms of our motivation and engagement in health-benefitting behaviors, in conjunction with beliefs and perceived benefits and barriers (Carpenter, 2010). Becker (1974) examined the Health Belief Model and its relevance to sick role behavior and argued that a stimulus, or cue to action, must be present in order to trigger the health-promoting behavior.

More recently, the literature has focused on the separation of health habits into protective versus compromising behaviors (Conner & Norman, 2005). Health protective actions refer to enhancing health behaviors in order to protect individuals from disease or increase overall health benefits. Examples of health enhancing behaviors include proper sleep habits, physical activity, routine physician check-ups, and adequate consumption of fruits and vegetables. Health-impairing behaviors include smoking, physical inactivity, unhealthy weight fluctuation, poor eating habits, and substance abuse (Becker, 1974). Additional categories related to health behaviors include an emphasis on the individual and their actions as either episodic or lifestyle habits. Glanz and Stryker (2010) referred
to vaccines and other intermittent actions as episodic behaviors, whereas more engrained lifestyle behaviors (e.g. dietary practices) occur more consistently over a period of time.

Most individuals engage in a variety of both health promoting and impairing behaviors; thus, a person may have a health-enhancing habit of regular physical activity, but also may engage in a detrimental behavior, such as smoking cigarettes daily. The rationale behind these conflicting behaviors of health promotion and health impairing occurs for a variety of reasons, such as the fact that although health habits are fairly stable, they do change over time. Moreover, particular health behaviors are not necessarily correlated with each other. For example, if we know a person practices one specific health habit, such as using seat belts, we can’t accurately predict that they practice another specific health habit, such as exercising. Finally, it is understood that health behaviors do not seem to be governed in each person by a single set of attitudes or responses tendencies. Thus, a girl who uses seat belts to protect herself from injury may watch her weight to be attractive and not smoke because she is allergic to it.

In 1973, Belloc studied the relationship between specific health practices and mortality. Individual health practices such as hours of sleep, regular eating habits, physical activity, smoking, and drinking and were each found to correlate with mortality in the expected direction (Belloc, 1973). These behaviors were then assigned a “health practice score” ranging from 0 to 7 based on prevention of illness and management of wellness. Belloc analyzed these health practice scores and found a significant inverse relationship between health practice scores and mortality rates. From there, he developed
a “life table” made up of the age-specific death rates by number of health practices and honed in on the specific number of health practices one engages in and their effects on mortality. This study ultimately showed that men aged 45 and over who reported six or seven “good” health practices lived, on average, 11 years longer than men of the same age who reported fewer than four “good” health practices. Women 45 years of age and over also benefitted from engaging in good health practices, with those who reported the six or seven health behaviors living an average of seven years longer than women of the same age who practiced less than four of the same health behaviors (Belloc, 1973).

Significant proportions of the morbidity and mortality rates in the United States are attributable to chronic diseases or health compromising behaviors. An estimated three-quarters of American healthcare costs relate to the treatment of chronic diseases, and seven out of ten deaths each year are a result of chronic illness (Kung, Hoyert, Xu, & Murphy, 2008). Interventions designed to reduce high-risk health behaviors are crucial in order to prevent the development of chronic diseases from health compromising behaviors, with an immediate focus on those that are most prevalent. Several methods of assessing health practices and national surveys have been conducted for the purpose of collecting statistics from children, adolescents, and adults. The Behavioral Risk Factor Surveillance System (BRFSS) and Youth Risk Behavior Surveillance System (YRBSS) serve to monitor and assess health risk behaviors and preventative health practices in the United States (CDC, 2014).
Self-Care vs. Health Behaviors Recommendations in the United States

Self-care is a multifaceted construct and includes several components in its working definition. As a result, researchers define self-care in varying ways, however, there is a universal agreement regarding self-care encompassing something one does to improve their subjective well-being. In the context of this review, self-care refers to “activities undertaken by individuals with the intent to promote, ensure, and restore psychological and physical health; to prevent, manage, or recovered from disease, injury, or trauma; or to achieve a sense of well-being” (Williams-Nickelson, 2005). Self-care encompasses many health behaviors that are related to one’s physical self-care. Physical self-care includes balanced nutrition and physical activity, along with maintaining one’s physical health through medical check-ups and treatment of physical conditions. However, self-care differs from health behaviors as it addresses other components related to wellness outside the scope of health behaviors, including psychological, emotional, spiritual, social, relational, and safety and security domains of health (Williams-Nickelson, 2005).

The concept of self-care appears to be particularly interesting to those in a variety of professional fields, as it is widely believed self-care is necessary to maintain subjective well-being while working in order to minimize personal and professional distress. In the field of psychology, the therapist’s distress can inflict a wide range of effects on the treatment provided to the patient. Thus, self-care is of particular importance due to the fact that the psychologists’ well-being greatly contributes to the effectiveness in therapy.
Norcross and Lambert (2005) highlight that effective psychotherapy is the result of the therapist, the treatment modality, the therapeutic relationship, and the patient. Consequently, all contributing factors to the effectiveness of therapy are reliant on the individual therapist and his or her wellness (Norcross and Lambert, 2005).

Many researchers have found it to be imperative for psychologists to implement proactive self-care strategies and most consider continuous self-care to be a core competency for psychologists (Baker, 2003; Norcross & Guy, 2007; Barnett & Cooper, 2009). Others acknowledge the importance for ongoing self-care outside of the professional setting and have proposed it be an ethical necessity for psychologists (Norcross & Guy, 2007; Wise, Hersh, & Gibson, 2012). The American Psychological Association recognizes self-care as an implied ethical mandate within their general principles. Beneficence and nonmaleficence, the first general principle in the APA Ethics Code, suggests psychologists “strive to be aware of the possible effect of their own physical and mental health on their ability to help those with whom they work” (APA, 2010).

Although there are numerous ways to implement self-care strategies, the research tends to focus on the psychological influences of self-care. One researcher surveyed psychologists on their self-care behaviors, and found that half of the respondents reported practicing meditation or prayer (Mahoney, 1997, N=155). Additionally, over 40% reported doing volunteer work, 66% engaged in consistent physical exercise, 80% engaged in other pleasurable activities (i.e., reading, vacationing, artistic enjoyments,
personal hobbies). These results indicate psychotherapy practitioners engage in self-care activities that are inclusive of a multitude of behaviors beyond just physical self-care domains.

Health Behavior Recommendations in the United States

The literature details health behavior recommendations such as suggested hours of sleep, alcohol consumption limits, and physical activity guidelines. The CDC suggests adults sleep between seven and nine hours per night (2011). The Dietary Guidelines for Americans define moderate, heavy, and binging amounts of alcohol consumption. Moderate alcohol consumption refers to one drink daily for women, or two drinks daily for men (U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2010). Heavy drinkers are categorized as women who consume more than one drink daily or men who have more than two drinks a day. Further, males who have five or more drinks on one occasion or females who have four or more drinks on one occasion are labeled as binge drinkers. In 2008, the U.S. Department of Health and Human Services released the Physical Activity Guidelines for Americans, which recommended at least 2.5 hours of aerobic activity every week. Moreover, muscle-strengthening activities targeting various muscle groups two or more days a week is also recommended by the U.S. Department of Health and Human Services (2008).
Health Behaviors of Psychologists and Trainees

Given their knowledge and skillsets, one might assume that healthcare professionals are more likely than other individuals to engage in healthy behaviors, and this is in fact generally the case. The bulk of the research examining health professionals’ health behaviors have not included psychologists; however, the studies that have generally suggest that psychologists’ engagement in health behaviors is consistent with that of other healthcare professionals. Wendt (2005, N=328) surveyed psychologists’ health habits and confirmed the notion that they tend to be more “health conscious” on behaviors such as physical activity and smoking than those who are not healthcare professionals. Other healthcare populations that have been found to engage in healthy behaviors include nurses, physician assistants, and physical therapists (Chevan & Haskvitz, 2010; Black, Marcoux, Stiller, Qu, & Gellish, 2012). A conflicting study examining a range of healthcare workers across the United States from the BRFSS database found healthcare professionals may not practice a healthy lifestyle in its entirety (Helfand & Mukamal, 2013). This notion reflects back on the differing reasons individuals practice some healthy behaviors yet neglect others. The remainder of the research documenting the health behaviors of psychologists and trainees tends to be limited.

In terms of demographic factors, Waldron (1997) found some differences between the health habits of psychologists and psychology trainees, in terms of reported body mass index (BMI), drinking, and smoking habits. Waldron found that female
psychologists (N=129) as well as female graduate students (N=209) engaged in healthier behaviors than the average male psychologist or male graduate student, respectively. Further, trainees and psychologists of the two genders between ages 40 and 60 years old practiced healthier behaviors than younger participants in their 20s (Waldron, 1997). Additionally, the study assessed the average BMI of trainees and psychologists (N=364) and found both fell within the normal weight status with a mean BMI of 22.79 (SD=3.24). It bears mentioning that a quarter of those surveyed had a BMI of greater than 25, placing them into the overweight/obese category. Waldron (1997) also discovered that female practitioners in hospital/clinic settings who had a normal BMI engaged in the most health benefitting behaviors. In terms of substance use, Gochman (2013) examined alcohol consumption and smoking behaviors of psychologists. Of those surveyed, 9% fell within the category of binge drinking, and of that sample, 20% of psychologists reported daily alcohol use (N=486). In terms of tobacco use, Gochman (2013) found that 82% of psychotherapists surveyed did not smoke (N=164).

**Psychologists Work in Promoting Health Behaviors and Barriers to Providing Health Counseling**

The research has shown various types of health behaviors that psychologists choose to address in therapy. A study by Barrow et al. (1987; N=196) examined personal physical activity and recommendations in therapy and found that although nearly 70% of surveyors reported engaging in some physical activity, only 10% recommended
maintaining physical fitness to their patients. However, more recent findings have shown a push in discussing the necessity of regular physical activity in a healthy lifestyle. Burton et al. (2010, N=236) found 83% of psychologists reported recommending physical activity to clients “often,” and up to two thirds of psychologists provided their own activity advice to their patients.

Members of the Society for the Advancement of Psychotherapy took part in a study examining their counseling behaviors in relation to sleep, physical activity, adequate nutrition, and substance use (Burks & Keeley, 1989, N=232). A self-report measure was used to determine the frequency of assessing health behaviors, and respondents reported “often” assessing for alcohol consumption, sleep habits, and substance use. Conversely, participants reported “only sometimes” checking in on diet habits, exercise frequency, and tobacco use. Moreover, therapists focused mostly on recommendations regarding drug use, and only sometimes provided psychoeducation about diet, sleep, and exercise (Burks & Keeley, 1989, N=232).

In terms of potential barriers to health behavior counseling, the literature has covered a plethora of categories responsible for the hindering psychologists from discussing some health habits. Bandura & Lock (2003, N=142) discussed a lack of training as a major barrier for therapists and found that psychologists who receive formal training will more frequently assess and educate on health behaviors. Similarly, there appears to be an issue with healthcare providers’ confidence within their scope of practice. The study additionally showed a belief in one’s abilities has a significant impact
on their level of motivation, as well as overall performance and success (Bandura & Lock, 2003).

Other factors affecting the amount of health behavior counseling performed include one’s practice setting and therapeutic orientation, although the research regarding the latter is somewhat mixed. Barrow et al., 1997 suggest psychologists in medical hospitals or health clinics are more likely to provide counseling on health behaviors than those who operate from a private practice setting (N=196). They also found that therapists who identified as humanistic or cognitive-behaviorally oriented were more likely to address physical activity in their treatment than therapists with a psychodynamic orientation. McEntee and Halgin (1996, N=110) argued therapeutic orientation was not a significant factor, and in their study found no relationship between one’s exercise counseling activity and therapeutic orientation.

Healthcare Professionals’ Personal Health Behaviors and Counseling

The literature indicates that health professionals’ personal behaviors tend to correlate with the likelihood of their counseling on particular health habits. This has resulted in what some in the healthcare community refer to as a “halo effect” on health professionals, where their personal health habits are assumed to be ideal based on the education they provide to their patients (Shai et al., 2012). Wells et al. (1984) conducted one of the earliest studies where physicians with positive health beliefs and personal habits (i.e., engaging in regular physical activity, abstaining from smoking, lowering
alcohol consumption, and maintaining a healthy weight) were more likely to counsel their patients on these habits.

Numerous studies have shown physicians (Wells et al., 1984; Lewis et al., 1991; McKenna et al., 1998; Frates, & Rogan, 2000; Frank et al., 2000; Livaudais, 2005; Howe et al., 2010) who engage in frequent exercise are more likely to provide counseling on physical activity. Fie, Norman, and While (2013) compared thirteen experiments and studied the relationship of physicians’ and nurses’ personal physical exercise and their counseling practices. The majority of the studies correlated a higher personal physical activity level with more frequent counseling practices. Three of the included studies, however, found that physicians’ personal physical activity was not related to their frequency of counseling on exercise habits.

Studies claiming the link between positive health behaviors and frequency of health counseling also support the notion that negative health behaviors adversely impact health counseling activity. More specifically, Wells et al. (1984) and Lewis et al. (1986) found that physicians who practice unhealthy behaviors or are simply inattentive to their own health were generally less likely to counsel patients on health behaviors. In addition, physicians who have limited physical activity were less likely to counsel their patients about exercise. Further, physicians who smoke themselves are less likely to counsel their patients to quit smoking when compared with nonsmoking professionals. Vickers et al. (2007) additionally surveyed 100 primary care providers, and found 31% of the providers
reported having difficulty counseling patients on a health behavior with which they struggle themselves.

The literature supports that physicians who are in the process of modifying their health positively influences their likelihood of counseling on these activities (Lewis et al., 1986). Similarly, Frank et al. (2000) found physicians had a better chance of discussing physical activity and weight-related issues with patients when the physicians themselves were trying to increase their amount of exercise. Interestingly, the same study found physicians who reported trying to improve eating habits were not more likely to counsel nutrition to their patients. It is also important to note the patient’s idea of a provider’s personal health habits also influences his or her reaction to health counseling. One study surveyed 226 patients from various physician practices about receiving counseling on health behaviors from their primary care provider. The five participating physicians each had their BMI calculated: two of the physicians fell within the obese category, while three physicians were classified as non-obese. Patients of the non-obese physicians were found to be significantly more receptive to health behavior counseling than were patients of the obese physicians (Hash, Munna, Vogel, & Bason, 2003).

Research is relatively sparse in terms of examining the relationship between personal health habits and the counseling activities of trainees in health professions. However, the few studies conducted on medical student health behaviors and the frequency of counseling on health behaviors have produced findings consistent with the corresponding research on physicians. Frank, Carrera, Elon, and Hertzber (2007)
surveyed 1,658 medical students and found healthier personal practices significantly predicted the likelihood of counseling patients about positive health habits. Moreover, the study found excessive alcohol consumption was related to a significantly lower frequency of counseling patients about alcohol consumption. In terms of physical activity, Lobelo, Duperly, and Frank (2009) reported medical students with healthier habits were significantly more likely to counsel their patients on the importance of exercise.

Psychologists’ and Trainees’ Personal Health Behaviors and Counseling

Compared with other health professions, there is limited research examining personal health behaviors of psychologists’ and trainees, and the influence it has on their health counseling activities. One study examined the frequency of counseling on smoking and physical activity and found it was not significantly related to a psychologist’s personal health behaviors (Wendt, 2005). However, the majority of the literature suggests personal health habits of psychologists are positively associated with the frequency of counseling on healthy behavior.

One study reported therapists who themselves practice a higher number of health-promoting behaviors had a greater likelihood of making recommendations regarding physical activity and healthy nutrition (Royak-Schaler & Feldman, 1984). Moreover, psychologists who practiced healthy behaviors (e.g., related to smoking, sleeping, eating, and exercise) were significantly more prone to making health-related recommendations to patients. Low alcohol consumption and behaviors related to maintaining a healthy weight
were among the positive health habits that were not significantly associated with recommendations in treatment (Royak-Schaler & Feldman, 1984). Woolley (1998; N=338) supported a strong relationship between therapists’ personal health behaviors and health recommendations made by them during therapy. In this study, practitioners and trainees with healthier personal lifestyles were significantly more likely to make health-promoting strategies in their treatment recommendations. Woolley (1998) concluded if practitioners practice certain positive health habits on their own, these behaviors would likely be encouraged in the therapeutic setting to others. Burton et al. (2010; N=236) additionally revealed psychologists who exercised on a regular basis were more than twice as likely to give advice related to physical activity than psychologists who did not personally exercise.

A study conducted by Yearwood (2014) served to gather knowledge of both the personal health behaviors and health counseling practices of psychologists and trainees. The study examined the extent to which certain variables (e.g., personal health behaviors, barriers to counseling on health behaviors, and professional practice characteristics) relate to the amount of counseling on health behaviors for psychologists and trainees. This study examined 313 professionals and 184 trainees, both of whom were measured against comparable samples of U.S. adults. Professional psychologists were compared to adults of equivalent age, education and income levels, while trainees were compared to education and age equivalent adults.
Participants of Yearwood’s study were surveyed on their current adherence to health recommendations for weight maintenance, tobacco smoking status, nutrition, physical activity, seatbelt usage, alcohol consumption, and sleep hygiene. While there were no significant differences among professionals and trainees, professional psychologists (N=313) were significantly more likely to engage in the health-promoting measures in comparison to U.S adults of a similar socioeconomic status (N=92255). More specifically, psychologists were more likely to adhere to recommended physical activity guidelines as well as maintain a healthy BMI. Comparably, psychologist trainees (N=313) were significantly more likely to engage in the health promoting behaviors that were assessed when compared to the general U.S. adult sample of equivalent age and education (N=49876). Specifically, nutrition, exercise, and BMI guidelines were more closely adhered to by trainees than by their comparison group.

Interestingly, this study revealed that trainees and psychologists both misused alcohol at a significantly higher rate than their U.S. adult counterparts. Other noteworthy results included that trainees were significantly less likely to perceive their general health as either “excellent” or “very good” in comparison with their U.S. equivalents. Trainees and professionals also reported significantly more days of functional impairment due to physical or mental health difficulties than their general population equivalents.
Statement of Purpose

The review of the literature demonstrates the major impact that personal health behaviors have on the overall health of the population; thus, interventions are imperative for reducing high risk behaviors, reducing preventable diseases, and lowering the mortality and morbidity rates in the U.S. The American Psychological Association recognizes the relationship between personal and professional domains when it comes to psychology, and asserts the importance for psychologists as well as trainees of developing methods of self-care. Beyond traditionally emphasized self-care practices such as meditation and relaxation, for example, these strategies include pro-health behaviors such as physical activity and proper nutrition. Woolley (1998) explains psychologists who practice in medical settings, including inpatient hospitals, counsel on health behaviors more frequently than practitioners in outpatient settings, such as private practice. Finally, in order to fully examine lifestyle practices of psychologists and trainees, it is necessary to put them in context by comparing the population to socioeconomically equivalent adults in the general U.S. population.

The current research serves to focus on personal health behaviors of psychologists and trainees working with various patient populations. It builds upon Yearwood’s (2014) study by attempting to replicate its findings and examining differences among psychologists and trainees working within inpatient versus outpatient settings, and with different patient populations, namely adults versus children. The study collected information needed to examine health behaviors across various settings, and to analyze
variables related to the specific health habits of psychologists and trainees. Hypotheses of this study were descriptive and explanatory, including the following postulates based on previous research:

1. Major findings of Yearwood’s 2014 study would be replicated.

2. There is no empirical basis for hypothesizing which population type (children vs. adults) might be more or less likely to be counseled on health behaviors. However, psychologists tend to focus heavily on behavioral interventions with children and to transition to more cognitive based interventions as patients’ ages. For psychotherapy professionals, it would make intuitive sense to counsel on health behaviors beginning at a younger age, ultimately phasing out the frequency of this counseling as patients grow older. Thus, when compared to psychologists and trainees treating primarily adults, psychologists and trainees working primarily with children were hypothesized to counsel more often on national health recommendations on health behaviors.

3. Similarly, there is no empirical basis for hypothesizing which setting (inpatient vs. outpatient) might be more likely to utilize health counseling practices. However, psychotherapy interventions in an inpatient setting necessarily focus on meeting the patient's basic needs before approaching with a more complex psychotherapy model. The rationale for this lies in the fact that typically, higher functioning patients are able to obtain care from an outpatient standpoint. Thus, it was hypothesized that when compared to psychologists and trainees working in
outpatient settings, psychologists and trainees working in inpatient settings to counsel more often to national health recommendations on health behaviors.
Method

Design

A cross-sectional survey was created by Yearwood (2014) to hone in on psychologists’ and trainees’ personal health behaviors, and to determine how influential these individual variables were related to their health behavior counseling practices. In the current study, questions were added to this cross-sectional survey to determine the setting in which psychologists and trainees are more likely to practice these behaviors, such as inpatient versus outpatient settings. Further, the study added questions designed to determine different ages of the population that these psychologists and trainees are counseling, namely in specifying children versus adult patients. The health behaviors were assessed in a group of licensed psychologists, graduate students training in psychology, and demographically similar U.S. adults. In psychologists and trainees, specific professional practice characteristics and attitudes about health behavior promotion were evaluated. The study was reviewed and approved by the Institutional Review Board at Florida Institute of Technology [See Appendix A].

Participants

Subjects self-selected to participate in this study voluntarily. Participants were recruited from Florida Institute of Technology as well as from professional organizations’ listservs including Florida Psychological Association and American Psychological Association. Participants were asked to complete an online form complete with survey
questions related to their practices and demographics. Participants who were 18 years old or above, and identified as either professional psychologists or post-doctoral resident, pre-doctoral interns, or graduate students training in psychology were deemed eligible to participate in the survey.

The Behavioral Risk Factor Surveillance System (BRFSS) was conducted by individual state health departments and analyzes behavioral risk factors. The BRFSS is conducted by Centers for Disease Control and Prevention (CDC) and is the world’s largest telephone survey. Since 1984, the CDC has collected monthly data by telephone survey in all 50 states as well as Puerto Rico, the District of Columbia, Guam, and the U.S. Virgin Islands. More than 400,000 U.S. adults are randomly selected for telephone interview each year. Data from the BRFSS is collected and produced by federal agencies, therefore making the information available to the public. Previous data from the BRFSS served as the control group in Yearwood’s study (2014), compiled of male and female samples in the U.S. whom previously completed the 2011 survey (CDC, 2011b). The same data was used in this study for comparability.

In this study, the group of professional equivalents analyzed consisted of U.S. adults of equal socioeconomic status (SES) and an equivalent age to the professionals. The second group in this study, trainee equivalents, consisted of U.S. adults of a comparable age and education level to psychology (i.e., graduate students, pre-doctoral intern, post-doctoral trainees).
Due to the nature of the survey as voluntary, participants were biased by self-selection. Following the data collection, analyses were conducted to discover if the sample was adequately represented population demographics and professional characteristics.

**Instruments**

This study’s survey consisted of 47 items. Specific domains and measurements that comprise the survey were as follows:

**Health Behaviors.** The BRFSS (CDC, 2014d) was the primary assessment measure utilized to interpret a self-report of health behaviors. This study used 35 of the BRFSS questions, worded verbatim from the BRFSS questionnaire in order to ensure maximum comparability with control data. The BRFSS questionnaire is comprised of three units: the state-added questions, core component questions, and optional modules. State departments across the nation required core component questions that were standardized to include fixed core, rotating core, and emerging core questions. Fixed core items are addressed by all states each year and gather information relevant to current behaviors affecting health as well as demographic information. Seven of the eleven fixed modules duplicated in this survey and include: Demographics, Health Status, Healthy Days, Health Care Access, Exercise, Alcohol Consumption, and Tobacco Use. Rotating core questions consisted of two separate sets of questions that
alternate each year between core component questions and optional module sets. Each state adopted the use of rotating core questions bi-yearly.

Nelson et al (2001) examined seven years’ worth of BRFSS reliability and validity studies and created a comprehensive summary of this data to evaluate the quality of the core BRFSS areas of research. The research demonstrated that most questions on the core BRFSS instrument are at least moderately reliable and valid, and numerous items appear to be highly reliable and valid (Yearwood, 2014). However, there was some variability in reliability and validity by health topic areas due to the limited BRFSS-specific studies available in the literature. As a result, several studies have compared the BRFSS estimates with other population-based survey data that used similar questions, namely the National Health Interview Survey (NHIS). Nelson et al. (2003) explained that NHIS and BRFSS provide similar overall national estimates for most of the health behaviors examined and overall mean differences between the surveys ranged from 0.4 to 3.0 percentage points (Yearwood, 2014).

Varying degrees of reliability were defined by Nelson et al. (2003), where items were labeled as having high reliability (greater than 0.60), moderate reliability (0.40 - 0.60), or low reliability (less than 0.40). Validity classifications were developed from studies with sensitivity and specificity values and organized as high validity (sensitivity and specificity values = 80%; correlation coefficients = 0.60), moderate validity (sensitivity and specificity values = 60 - 79%; correlation coefficients = 0.40 to 0.59), or
low validity (sensitivity and specificity values = less than 60%; correlation coefficients = less than 0.40). Relative percent differences between the BRFSS and other survey estimate classified validity as high (relative percent difference around 5%), moderate (relative percent difference = 6 - 15%), and low (relative percent difference greater than 15%).

Additional important variables in the BRFSS research included demographic differences. These differences are notable due to the health illnesses and potential risky health behaviors that can vary among different subgroups. BRFSS data, including demographic information, typically demonstrate high reliability (Nelson et al., 2001). The literature review reported the BRFSS data on respondents’ gender had the highest reliability in comparison to all other demographic variables. However, research regarding the validity on demographic differences has yet to be studied. In terms of race and ethnicity questions, Nelson et al. suggested the BRFSS data demonstrate high reliability, most noticeably for those who identify as white or black. Additional research indicated that although reporting of one’s educational attainment tended to vary more than other demographic variables, it still suggested a reliable self-reported measure. Although no studies have closely examined the validity of BRFSS educational attainment questions, other comparable studies report moderate validity due to a small error of misidentifying highest grade attended rather than highest grade completed (Yearwood, 2014).

Other more subjective items on the BRFSS include questions regarding health status and quality of life. Psychometrically examining these questions is difficult due to
the lack of an operational definition that allows us to measure and compare responses across groups, as well as the notion that subjective responses may change over a short period of time. Thus, determining reliability proves to be difficult for these types of questions. Other studies have examined and indirectly assessed validity by comparing subjective questions that are health related, such as mortality, morbidity, and other self-reported data. Nelson et al. (2001) made mention of inability to assess BRFSS-specific reliability or validity on health status. Nevertheless, based on information from other studies with similar items, BRFSS’ health status question was found to be moderately reliable and highly valid. However, questions measuring quality of life, where the participant is asked to self-report poor physical or mental health days in the past month, have unknown reliability and only moderate validity in differentiating those in good health from those who are seriously impaired (Nelson et al., 2001).

More questions on the BRFSS instrument inquired about substance use of tobacco and were found to be highly reliable and consistent with other surveys (Nelson et al., 2001). BRFSS questions that examined the average number of cigarettes smoked per day had high reliability and moderate validity. Jackson (1992) and Battelle (1999) looked at studies of cigarette sales as well as data from the NHIS and suggested BRFSS data could underestimate the prevalence of heavy smoking in comparison to actual national consumption. Furthermore, the research is lacking in terms of reliability and validity estimates on attempts to quit smoking during the past year and length of time since last cigarette (Nelson et al., 2001). In terms of items assessing alcohol use, reliability of
BRFSS questions on alcohol consumption and binge drinking were found to be high. However, potential inconsistencies were noted among studies in reporting among heavier alcohol users, where the BRFSS data appeared to underestimate the number of heavier drinkers (Yearwood, 2014). The BRFSS estimates of alcohol consumption are found to be comparable to other surveys, namely the NHIS, and the overall the validity of alcohol-related questions was moderate.

In terms of physical activity, the BRFSS contains several questions regarding participation in physical activities, frequency of physical activity, and duration of physical activity. The literature review of BRFSS information for overall physical activity questions demonstrated moderate reliability, where Shea et al. (1991) and Bowson et al. (1999) both found BRFSS questions to have moderate reliability for assessing sedentary lifestyle. Nelson et al. (2001) found physical activity-related questions to have moderate validity. Researchers based this validity estimate solely on inferences from other self-reported physical activity measures, such as the Minnesota Leisure Time Physical Activity Survey (MLTPAS) and the Harvard Alumni Activity Survey (HAAS). It is notable, however, that research on validity for physical activity is weak and studies using BRFSS-specific data are lacking.

The domains listed below were explored through several questions on the survey and utilized the following methods:

**Professional Practice Information.** Employment setting, estimated hours per week spent on professional activities, and primary psychotherapy orientation are included
in measures related to obtaining professional practice information. Employment surveys published by the APA provided the basis of these items (Michalski, Mulvey, & Kohout, 2010; Michalski, Kohout, Wicherski, & Hart, 2011). Questions added to this survey also included specifying the age of patients the psychologist or trainee primarily spends their time counseling and assessing, as well as whether the patients are seen in an inpatient or an outpatient setting.

**Health Behavior Counseling.** Two items assessed the rate of current health counseling behaviors (Vickers et al., 2007) and frequency of typical health counseling activities performed (Frank et al., 2005). These questions called on psychologists and trainees to estimate the percentage of patients that receive counseling on health behaviors during their sessions. Responses for frequency of health counseling activities were presented on a scale of one to five (1=Never, 2=Rarely, 3=Sometimes, 4=Usually, 5=Always) and based on respondent’s estimate of how often he or she actually performs health promotion counseling activities such as physical activity, weight monitoring, tobacco use, alcohol use, and sleep with a typical patient.

**Perceived Confidence and Importance for Counseling.** Psychologists and trainees were asked to rank their level of confidence in their abilities to counsel patients on specific health behaviors, including physical activity, weight monitoring, tobacco use, alcohol use, and sleep (Vickers et al., 2007). Response options ranged from 1 (not at all confident) to 9 (extremely confident). Additionally, perceived importance of health behavior counseling was assessed using a Likert scale item questioning the respondents
perceived importance in counseling patients about health behaviors. Response options were presented on a nine-point scale ranging from not at all important (1) to extremely important (9).

**Perceived Influence of Personal Health Behavior on Counseling Practices.**

One item assessed the psychologists’ and trainees’ perceptions of the effect of their own health behavior on counseling patients on that specific health behavior. Specific health behaviors included physical activity, weight, tobacco use, alcohol, and sleep. Response options were presented on a Likert scale, ranging from not at all (1) to very much (9).

**Procedure**

An invitation to participate in a web-based survey was emailed to members of identified professional psychology organizations, including the American Psychological Association and Florida Psychological Associations at large, as well as to individual known psychologists and various doctoral graduate programs across the United States. Further, the Society for Health Psychology (Division 38 of the American Psychological Association was specifically targeted, in addition to the Medical Psychology and Child, Adolescent, and Family Divisions of Florida Psychological Association. Data collection began July 11, 2016 and ended September 16, 2016. The survey was administered to psychologists and trainees online and utilized an internet-based questionnaire website, Qualtrics. An electronic informed consent was presented for participants to review and sign before gaining access to survey items, and participants were permitted to stop completing the survey at any point throughout the questionnaire. After the survey was
complete, respondents were thanked for their participation and given an option to provide identifying information in a separate format in order to enter a drawing to win a $100 Visa gift card. Email addresses of those who complete the survey for the gift card drawing were collected through a secondary online-format to ensure confidentiality of respondents’ identifying information.
Results

Participant Demographics

A total of 170 participants completed the survey titled “Personal Health Behaviors of Professional Psychologists and Trainees Across Types of Settings.” In addition, two samples of adults were included as comparison groups to be used in conjunction with the findings of professionals (U.S. adults with high SES; N=92256) as well as trainees (U.S. adults with equivalent age and education; N=49876). Table 1 displays the demographic information of the psychologist, trainee, and U.S. adult equivalent samples.

The survey sample consisted of 51.2% professional psychologists (N=87), and 48.8% of psychology trainees (N=83). Ages across both samples ranged from 21 to 73, with a mean age of 37.01 years.

In terms of ethnicity, most respondents identified as Not Hispanic or Latino (93.5%). More specifically, of the psychologists who participated in this survey, only 4.6% endorsed their ethnicity as Hispanic or Latino. With regard to trainees who completed this survey, 91.6% endorsed their ethnicity as Not Hispanic or Latino, while 7.2% did identify as Hispanic or Latino, and 1.2% reported being Not Sure of their ethnicity.

When investigating race, an overwhelming majority of the sample identified as white (96.4%), which is over representative of white individuals since APA’s Center for Workforce Study’s (CWS) most recent membership reported 83.6% of professional members were white (2015). It bears mentioning that 1.7% of respondents identified with
multiple races, and did not endorse their racial makeup as solely Caucasian. Minority responses in the current survey included 1.7% Black or African American, 1.7% Asian, 1.1% Other Race, and 0.6% American Indian or Alaska Native races. While it was an option to choose not to disclose racial information, no respondents in this survey endorsed not knowing or refusing to disclose their race, and thus, this breakdown of racial differences is inclusive of all survey participants.

With regard to gender differences in the totality of this survey, 77.1% of respondents identified as female, 21.8% identified as male, and 1.2% identify as transgender female. In the current study, 66.6% psychologists identified as female, while 33.3% of psychologists identified as male. Further, among the trainees who completed this survey, 87.95% were female, 9.64% were male, and 2.4% identified as transgender. This data is fairly consistent with data from the CWS that suggests a widening gender gap, as three out of four new trainees in psychology are women, while a number of men retiring from the profession. As a result, the proportion of gender for those examined in this survey appears to be an accurate representation of the current psychology population.

**Employment Setting.** Primary employment, practicum, or internship settings of the psychologist and trainee samples are displayed in Table 2. Professional psychologists reported primarily working in Outpatient Clinics (23%) and Primary Care Offices (19.5%), while trainees endorsed primarily working in Outpatient Clinics (28.9%) and University/Academic (13.3%) settings. Employment settings were categorized based on the setting’s primary focus as either 1) mental health (i.e., University/college counseling
center, Outpatient clinic, Psychiatric hospital), 2) medical (i.e., VA medical center, General Hospital, Rehabilitation facility, Primary Care Office), or 3) other (i.e., Managed care, Business/government and other, Other human service setting, University/Academic settings). The self-reported types of employment settings showed Psychologists (33.3%, n = 29) were less likely to work in mental health settings than trainees (44.5%, n = 37). Further, trainees (33.7%, n = 28) were less likely than psychologists (44.8%, n = 36) to work in other medical settings. There was no significant difference between the proportion of trainees (21.7%, n = 18) and professionals (25.3%, n = 22) who reported working primarily in other employment settings.

**Inpatient vs. Outpatient Settings.** Psychologists and trainees were asked to identify the setting in which they spend the majority of their workweek serving. Inpatient and outpatient population settings of the psychologist and trainee sample are shown in Table 3. A large majority of professional psychologists (88.2%, n=75) and trainees (80.7%, n=67) in the sample reported serving primarily the outpatient population. Consequently, this survey reflects a small sample of both professional Psychologists (11.8%, n=10) and trainees (19.3%, n=16) working in an inpatient setting.

The proportion of psychologists and trainees serving primarily outpatient populations as opposed to inpatient settings reflects the nationwide underrepresentation of psychology professionals in inpatient settings. Data from APA’s CWS suggested inpatient settings remain an underserved population with regard to psychological professionals in the workplace, with less than 17% of psychologists working primarily in
an inpatient setting. As a result, while the percentage of inpatient psychologists who responded to the survey was small, it is comparable to United States’ estimates of the psychology population.

**Minor vs. Adult Populations.** Psychologists and trainees were asked to indicate the populations to which they primarily spend their time providing services. Minor and adult populations of the psychologist and trainee sample are shown in Table 4 below. A majority of professional psychologists (90.8%, n = 79) as well as trainees (83.1%, n = 69) in the sample reported primarily serving adult populations. As a result, this survey reflects a small sample of both professional psychologists (9.2%, n = 8) and trainees (16.9%, n = 14) who spend a majority of their workweek providing services to the minors.

Using CWS workforce data and comparing findings to the current survey, it is clear that the minor population is underserved by psychology. APA’s CWS examined different populations served and found that less than 20% of psychologists provided services to children and adolescents “very frequently.” Moreover, 83% of respondents reported “frequently” working with adults, while only 23% of psychologists reported the same amount of time dedicated to working with children. In addition, 50% of CWS survey respondents reported never providing services to children. As a result, while the current study underrepresents psychologists and trainees serving adolescents and children, findings are relatively consistent with United States’ estimates.
Comparison of Health Behaviors for Psychologist, Trainee, and U.S. Adult Samples.

Participants were surveyed on their current adherence to health recommendations for nutrition, physical activity, weight maintenance (BMI), tobacco use, alcohol consumption, and sleep hygiene. Overall there was a significant difference among professionals, trainees, and U.S. adult samples ($F(2, 134693) = 166.37, p < .01$) engaging in surveyed health-protective actions, as measured by percentage of adherence to recommended guidelines for reported health behaviors. A summary of significant differences found among psychologists’, trainees’, and equivalent U.S. adults’ health behaviors are displayed in Table 5.

There were no significant differences between professionals and trainees. However, professional psychologists ($M = .77, SD = 16.33, N = 87$) were significantly more likely to engage in the surveyed health promoting behaviors of physical activity and weight maintenance when compared to other high SES U.S. adults ($M = .61, SD = 18.96, N = 117176$). Similarly, trainees ($M = .75, SD = 17.18, N = 83$) were significantly more likely to engage in the surveyed health promoting behaviors of physical activity, weight maintenance, and nutrition when compared to the equivalent age and education level U.S. adult sample ($M = .59, SD = 19.74, N = 17517$). Further, both psychologists and trainees were found to consume more alcohol when compared to the equivalent age and education level U.S. adult sample.

Perceived Confidence for Health Behavior Counseling. Response options for confidence in one’s abilities for health behavior counseling ranged from 1 (not at...
all confident) to 9 (extremely confident). Health behaviors assessed included nutrition, physical activity, weight, tobacco use, alcohol, and sleep. There was no significant difference between mean perceived confidence across all health behaviors on counseling patients for professionals (M= 6.97, SD = 2.06) and trainees (M = 5.62, SD = 2.08). Mean scores for professional psychologists’ and trainees’ perceived confidence for counseling on health behaviors are displayed in Table 6. There were no statistically significant differences found between professionals and trainees on perceived confidence in their own counseling practices. Psychologists’ mean impact scores ranked sleep (M=7.56, SD=1.70), physical activity (M=7.03, SD=1.97), and tobacco use (M=6.91, SD=2.21) as the top three personal health behaviors on which they felt most confident counseling. Trainees’ mean impact scores ranked sleep (M=6.81, SD=1.70), physical activity (M=5.90, SD=2.00), and alcohol consumption (M=5.74, SD=2.09) as the top three personal health behaviors on which they felt most confident counseling.

**Perceived Influence of Personal Health Behavior on Counseling Practices.**

Response options for assessing participants’ perceptions of the effect of their own health behaviors on counseling ranged from 1 (not at all) to 9 (very much). Health behaviors assessed included nutrition, physical activity, weight, tobacco use, alcohol, and sleep. There was no significant difference between mean perceived influence across all health behaviors on counseling patients for professionals (M = 4.56, SD = 1.49) and trainees (M = 4.02, SD = 2.61). Mean scores for professional psychologists’ and trainees’ perceived
effect of their own health behaviors on counseling patients on those specific health behaviors are displayed in Table 7. There were no statistically significant differences found between professionals and trainees in perceived effect of their own health behavior on counseling. Psychologists’ mean impact scores ranked nutrition (M = 5.03, SD = 2.72), physical activity (M = 5.19, SD = 2.71), and weight maintenance (M = 4.93, SD = 2.73) as the top three personal health behaviors that had the most impact on counseling patients on that specific health behavior. Trainees’ mean impact scores ranked physical activity (M = 4.76, SD = 2.66), sleep (M = 4.40, SD = 2.64), and nutrition (M = 4.36, SD = 2.67) as the top three personal health behaviors that had the most impact on counseling patients on that specific health behavior. Psychologists’ and trainees’ mean and standard deviations for each counseling variable are reflected in Table 8.

Interaction of Counseling on Nutrition Across Settings. Respondents were asked to indicate the frequency of nutrition counseling. A two-way between-groups analysis of variance was conducted to explore differences in nutrition counseling activity between psychologists and trainees working primarily in either inpatient or outpatient settings. Results shown in Table 9 indicate the mean score for psychologists was 3.30 (SD=.908) and the mean score for the trainee group was 2.56 (SD=1.11), corresponding to “sometimes” counseling on nutrition. The interaction effect between practitioner type and setting type was not statistically significant, F (1, 141) = .049, p=.825. There was a statistically significant main effect for practitioner type, with psychologists counseling
more often on nutrition $F(1, 141) = 9.39, p = .003$. The main effect for setting type, $F(1, 141) = .142, p = .707$, did not reach statistical significance.

**Interaction of Counseling on Physical Activity Across Setting.** Respondents were asked to indicate the frequency of counseling on physical activity. A two-way between-groups analysis of variance was conducted to explore differences in physical activity counseling between psychologists and trainees in either primarily inpatient or outpatient settings. Results shown in Table 10 indicate the mean score for psychologists was 3.74 (SD=.872) and the mean score for the trainee group was 3.18 (SD=.861), corresponding to “sometimes” counseling on physical activity. The interaction effect between practitioner type and setting type was not statistically significant, $F(1, 140) = .132, p = .717$. There was a statistically significant main effect for practitioner type, with psychologists counseling more often on physical activity $F(1, 140) = 6.68, p = .011$, however, the effect size was minimal (partial eta squared = .046). The main effect for setting type, $F(1, 140) = .132, p = .717$, did not reach statistical significance.

**Interaction of Counseling on Weight Management Across Settings.** Respondents were asked to indicate the frequency of counseling on weight management. A two-way between-groups analysis of variance was conducted to explore differences in weight management counseling between psychologists and trainees in either primarily inpatient or outpatient settings. Results shown in Table 11 show the mean score for psychologists was 3.13 (SD=.855) and the mean score for the trainee group was 2.51 ($SD=1.048$), corresponding to “sometimes” counseling on weight management. The
interaction effect between practitioner type and setting type was not statistically significant, F (1, 140) = .132, p = .253. There was a statistically significant main effect for practitioner type, with psychologists counseling more often on weight management F (1, 140) = 4.230, p = .042, though the effect size was small (partial eta squared = .029). The main effect for setting type, F (1, 140) = .132, p = .717, did not reach statistical significance.

**Interaction of Counseling on Tobacco Use Across Settings.** Respondents were asked to indicate the frequency of counseling on tobacco use. A two-way between-groups analysis of variance was conducted to explore differences in tobacco use counseling between psychologists and trainees working primarily in either inpatient or outpatient settings. Results shown in Table 1 concluded the mean score for psychologists was 3.06 (SD=.991) and the mean score for the trainee group was 2.57 (SD=1.12), corresponding to “sometimes” counseling on tobacco use. The interaction effect between practitioner type and setting type was not statistically significant F (1, 140) = 3.53, p = .062. In terms of the main effect for practitioner type, there was no statistical significance, F (1, 140) = .742, p=.391. Additionally, the main effect for setting type, F (1, 140) = 1.18, p=.279, did not reach statistical significance.

**Interaction of Counseling on Alcohol Misuse Across Settings.** Respondents were asked to indicate the frequency of counseling on alcohol misuse. A two-way between-groups analysis of variance was conducted to explore differences in alcohol misuse counseling between psychologists and trainees working primarily in either
inpatient or outpatient settings. Results shown in Table 13 indicate the mean score for psychologists was 3.33 (SD=.872), and the mean score for the trainee group was 3.17 (SD=.949), corresponding to “sometimes” counseling on alcohol misuse. The interaction effect between practitioner and setting type was not statistically significant, F (1, 140) = 1.009, p=.317. Further, there was not a statistically significant main effect for practitioner type, F (1, 140) = .025, p=.875, nor did setting type reach statistical significance, F (1, 140) = .160, p=.690.

**Interaction of Counseling on Sleep Hygiene Across Settings.** Respondents were asked to indicate the frequency of counseling on sleep hygiene. A two-way between-groups analysis of variance was conducted to explore the differences in sleep hygiene counseling between psychologists and trainees and working primarily in either inpatient or outpatient settings. Results shown in Table 14 concluded the mean score for psychologists was 3.93 (SD=.893), and the mean score for the trainee group was 3.72 (SD=.923), corresponding to “sometimes” counseling on sleep hygiene. The interaction effect between practitioners and setting type was not statistically significant, F (1, 140) = .202, p=.654. Further, there was not a statistically significant main effect for practitioner type, F (1, 140) = .437, p=.510, nor did setting type reach statistical significance, F (1, 140) = .146, p=.703.

**Interaction of Counseling on Nutrition When Treating Children and Adults.** Respondents were asked to indicate the frequency of counseling on nutrition. A two-way between-groups analysis of variance was conducted to explore differences in nutrition
counseling between psychologists and trainees working primarily with children or adult populations. Results shown in Table 15 indicate the mean score for psychologists was 3.25 (SD=.920) and the mean score for the trainee group was 2.56 (SD=1.11), corresponding to “sometimes” counseling on nutrition. The interaction effect between practitioners and population type was not statistically significant, F (1, 141) = .049, p=.825. There was no statistically significant main effect for practitioner type, F (1, 143) = 1.61, p=.206, nor did the main effect for population type, F (1, 143) = 1.291, p=.258 reach statistical significance.

**Interaction of Counseling on Physical Activity When Treating Children and Adults.** Respondents were asked to indicate the frequency of counseling on physical activity. A two-way between-groups analysis of variance was conducted to explore differences in physical activity counseling between psychologists and trainees working primarily with children or adult populations. Results shown in Table 16 concluded the mean score for psychologists was 3.73 (SD=.865) and the mean score for the trainee group was 3.18 (SD=.861), corresponding to “sometimes” counseling on physical activity. The interaction effect between practitioners and population type was not statistically significant, F (1, 142) = .887, p=.348. There was a statistically significant main effect for practitioner type, with psychologists counseling more often on physical activity, F (1, 142) = 9.68, p=.002, with a marginal effect size (partial eta squared = .064). The main effect for population type, F (1, 142) = 1.035, p=.311, did not reach statistical significance.
Interaction of Counseling on Weight Management When Treating Children or Adults. Respondents were asked to indicate the frequency of counseling on weight management. A two-way between-groups analysis of variance was conducted to explore differences in weight management counseling between psychologists and trainees working primarily with children or adult populations. Results shown in Table 17 shows the mean score for psychologists was 3.09 (SD=.863) and the mean score for the trainee group was 2.51 (SD=1.048), corresponding to “sometimes” counseling on weight management. The interaction effect between practitioners and population type was not statistically significant, F (1, 142) = .973, p=.326. However, there was a statistically significant main effect for practitioner type, with psychologists counseling more often on weight management, F (1, 142) = 9.122, p=.003, with a marginal effect size (partial eta squared = .060). The main effect for population type, F (1, 142) = 1.973, p=.162, did not reach statistical significance.

Interaction of Counseling on Tobacco Use When Treating Children or Adults. Respondents were asked to indicate the frequency of counseling on tobacco use. A two-way between-groups analysis of variance was conducted to explore the differences in tobacco use counseling between psychologists and trainees working primarily with children or adult populations. Results shown in Table 18 indicate the mean score for psychologists was 3.01 (SD=1.014) and the mean score for the trainee group was 2.57 (SD=1.124), corresponding to “sometimes” counseling on tobacco use. The interaction effect between practitioners and setting type was not significant F (1, 142) = .447,
p=.505. In terms of the main effect for practitioner type, there was statistical significance supporting psychologists counseling more often on tobacco use, F (1, 142) = 4.046, p=.046, however, the effect size was minimal (partial eta squared = .028). Additionally, the main effect for population type was also statistically significant, F (1, 142) = 9.276, p=.003, with a marginal effect size (partial eta squared = .061).

**Interaction of Counseling on Alcohol Misuse When Treating Children or Adults.** Respondents were asked to indicate the frequency of counseling on alcohol misuse. A two-way between-groups analysis of variance was conducted to explore the differences in alcohol misuse counseling between psychologists and trainees working primarily with children or adult populations. Results shown in Table 19 indicate the mean score for psychologists was 3.32 (SD=.862), and the mean score for the trainee group was 3.17 (SD=.949), corresponding to “sometimes” counseling on alcohol misuse. The interaction effect between practitioner and population type was not statistically significant, F (1, 142) = .999, p=.319. Further, there was not a statistically significant main effect for practitioner type, F (1, 142) = 1.668, p=.199, nor did population type reach statistical significance, F (1, 142) = 16.010, p=.101.

**Interaction of Counseling on Sleep Hygiene When Treating Children or Adults.** Respondents were asked to indicate the frequency of counseling on sleep hygiene. A two-way between-groups analysis of variance was conducted to explore the differences in sleep hygiene counseling between psychologists and trainees working primarily with children or adult populations. Results shown in Table 20 indicate the mean
score for psychologists was 3.92 (SD=.894), and the mean score for the trainee group was 3.72 (SD=.923), corresponding to “sometimes” counseling on sleep hygiene. The interaction effect between practitioner and population type was not statistically significant, $F (1, 141) = .953, p=.331$. Further, there was not a statistically significant main effect for practitioner type, $F (1, 141) = 2.380, p=.125$, nor did population type reach statistical significance, $F (1, 141) = .354, p=.553$. 
Discussion

The present study served to further the research investigating health behaviors of psychologists and trainees across inpatient and outpatient settings. The sample of 87 psychologists and 83 trainees that completed this survey were under representative of both minority groups and men compared to U.S. adult populations. However, the high proportion of white, female survey respondents was fairly similar to the demographics of the current U.S. psychology workforce.

It was hypothesized when compared to psychologists and trainees treating primarily adults, psychologists and trainees working primarily with children would adhere more often to counseling on national health recommendations. Psychologists and trainees counseling children typically tend to focus on behavioral interventions, such as recommendations on improving personal health behaviors. As children become adolescents and young adults, psychologists later transition into more cognitive-based interventions and challenging thought patterns. While empirical evidence has yet to support this hypothesis, it would make intuitive sense to counsel on health behaviors beginning at a younger age, ultimately phasing out the frequency of this counseling as patients grow older. Results indicated psychologists working with a younger population were marginally more likely to counsel on smoking cessation and the dangers of tobacco use. Although this study found no significant interactions between counseling on specific personal health behaviors (nutrition, physical activity, weight management, alcohol
misuse, and sleep hygiene) and the primary age population that was being treated, it mirrors a documented deficit of psychologists who work with younger populations.

Additionally, the current study examined the frequency of counseling on health recommendations in inpatient and outpatient populations. Similar to the aforementioned hypothesis, it is intuitive that psychotherapy interventions in an inpatient setting tend to shift primarily towards meeting the patient’s basic needs rather than approaching with a more complex psychotherapy model. The rationale for this lies in the fact that higher functioning patients are generally able to obtain outpatient care, while those who require more intense treatment are more prone to inpatient hospitalization. Thus, it was expected that psychologists and trainees working primarily in an inpatient setting would adhere more often to counseling on national health recommendations in order to meet each patient’s basic needs that otherwise might be met from an outpatient standpoint.

There have been only a few published studies comparing the health habits of medical trainees and professionals, and these demonstrated that most medical professionals have better health habits than medical trainees (Hope, Kelleher, & O’Connor, 1998). The current study found similar differences between perceived health status of trainees and professionals, though the differences were not inclusive of all health behaviors as prior research suggests, nor were differences as significant as indicated by Hope, Kelleher, and O’Connor (1998). The current study further revealed marginally significant differences between practitioners and setting type when counseling on smoking cessation and tobacco use. Although this study did not find any other significant
interactions, it leads the way for increased training of future psychologists and an emphasis on the importance of practicing and counseling on all personal health behaviors.

This study also served to expand upon findings of Yearwood (2014), which investigated the personal health behaviors of psychologists and trainees when compared to U.S. equivalent adults. Although Yearwood (2014) found no significant relationship between practitioners’ personal health behaviors and health counseling practices, the results of that study revealed significant relationships within both psychologists and trainee samples between the perceived importance of counseling on health behaviors and amount of training on the frequency of counseling on health behaviors. Additionally, the current study provided unique information on psychologists’ and trainees’ personal health behaviors and counseling practices across different settings and populations.

Some noteworthy limitations were present in the current study. Because this study was an online-administered survey, its findings are compiled from respondents’ self-reports of personal health behaviors and counseling practices. Additionally, aside from the findings of Yearwood (2014), this survey was unique in its assessment of health behaviors and thus it is difficult to compare its findings to prior research that has investigated health behaviors and focused on health counseling activity for psychologists and trainees. Finally, while the survey sample approximated the demographics of the current APAs workforce, it is difficult to draw definitive conclusions regarding
psychologists and trainees working with minors (ages 0-17) or those practicing in an inpatient setting, as they represented only a small percentage of this survey’s respondents.

Despite previously discussed limitations, the study has several noteworthy strengths. This is one of the first studies to investigate a wide range of health behaviors in psychologist and trainee populations, and additionally look for differences in these health behaviors and counseling practices among different setting types and populations. The findings of this study not only contribute to an already comprehensive inventory of health behaviors for psychologists and trainees (Yearwood, 2014), but also explore variables that may impact health counseling activities and applied these variables across specific settings and within specific populations. Further, the ANOVA analyses that were conducted allow for greater generalizability of results, and can utilize fewer participants to achieve same level of power. Therefore, while the small sample size of the current study (N=170) makes it difficult to draw definitive conclusions of the personal health behaviors or counseling practices of psychologists and trainees as a whole, a general understanding of approaches can be determined and pave the way for future training in the field.

There are several implications for future study of psychologists and trainees who provide counseling on health behaviors to their clients. Future research should seek to include a larger number of participants, both psychologists and trainees, to further investigate the influence of variables impacting the frequency of health counseling.
Finally, future research should also include a review of records that verify self-reported information, such as brief therapy notes to compare to responses of counseling activity.
References


Appendix A

Institutional Review Board Form

Florida Institute of Technology

Institutional Review Board Office
Dr. Lisa Steelman, Chair IRB
School of Psychology
(p) 674-8104
isteelma@fit.edu
http://www.fit.edu/research/committees/irb/index.html

RESEARCH INVOLVING HUMAN SUBJECTS
Exempt Application

This form shall be used if there is minimal risk to human subjects and one or more of the conditions below apply. If there is more than minimal risk associated with the research (none of the conditions below apply) or if the research utilizes a special population (children, prisoners, institutionalized individuals, etc.), please use the full application form found on the IRB website.

You should consult the university's document "Principles, Policy, and Applicability for Research Involving Human Subjects" prior to completion of this form. Copies may be obtained from the Office of Sponsored Programs and on the IRB website.

Name: Alexa Barnett, M.S
Date: 04/08/2016
Academic Unit: Clinical Psychology program in the College of Psychology and Liberal Arts
Email: Ms. Barnett – abarnett2013@my.fit.edu
Dr. Van Sickle- kvansickle@fit.edu

Title of Project: Personal Health Behaviors of Professional Psychologists and Trainees Across Types of Settings

☐ 1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as:
   a) research on regular and special education instruction strategies, or
   b) research on the effectiveness of or the comparison among instruction techniques, curricula, or classroom management methods.

☐ 2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior unless:
   a) the subjects can be identified, directly or through identifiers linked to the subjects and
b) any disclosure of subjects’ responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, or reputation.

Note: This exemption does not apply to survey procedures or interviews involving minors.

3) Research involving the use of educational tests, survey or interview procedures, or observation of public behavior if:
   a) the subjects are elected or appointed public officials or candidates for public office or
   b) the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.

4) Research involving the collection or study of existing data, documents, records, or specimens if these sources are publicly available or if the information is recorded by the investigator in such a manner that subjects cannot be identified, indirectly or through identifiers linked to the subjects.

5) Research and demonstration projects that are conducted by or subject to the approval of Department or Agency heads and that are designed to study, evaluate, or otherwise examine:
   a) public benefit or service programs,
   b) procedures for obtaining benefits or services under those programs,
   c) possible changes in or alternatives to those programs or procedures, or
   d) possible changes in methods or levels of payment for benefits or services under those programs.

6) Taste and food quality evaluation and consumer acceptance studies if:
   a) wholesome foods without additives are consumed or
   b) food is consumed that contains food ingredients found to be safe by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

1. List the objectives of the proposed project.
   a) To examine health and health behaviors of psychologists compared with the general population.
   b) To identify if psychologists’ personal health behavior is related to the likelihood that they would counsel patients about these same behaviors.
   c) To examine how confidence in skills and perceived importance of health changes impacts psychologists’ abilities to counsel patients on health behaviors.
   d) To assess the different settings in which psychologists are more likely to practice and counsel on health behaviors.

2. Describe the research project design/methodology. Discuss how you will conduct your study, and what measurement instruments you are using. If your project will use a questionnaire or structured interview, attach. Please describe your study in enough detail so the IRB can identify what you are doing and why.
A list to an electronic survey form will be e-mailed to psychologists and clinical psychology graduate students. The survey asks participants to provide demographics, work-related information, personal health behavior details, confidence in personal skills in health behavior change counseling, perceived importance of health behavior counseling, and perceived impact of personal health behaviors on counseling. Questions accessing health behaviors are taken from the Behavioral Risk Factor Surveillance System (BRFSS), which is an annual public domain survey conducted by the Centers For Disease Control and Prevention. The survey form is attached.

 Immediately after completion of the survey, participants will be given the option to enter into a contest via email to enter into a drawing for a $100 Visa gift card. Participants’ email addresses will be collected in a secondary form to ensure participants’ identifying information is separate and responses on the survey are kept confidential.

3. Describe the characteristics of the subject population, including number, age, sex, and recruitment strategy.

   • Licensed psychologists and clinical/counseling graduate students will be enlisted from Florida Institute of Technology, Florida Psychological Association, and American Psychological Association. The organizations will be solicited and asked to distribute the questionnaire via association listservs.
   • Approximately 200 adult participants (100 males, 100 females)
   • Participants may enter into a raffle for a $100 Visa gift card for compensation after completion of the survey.

4. Describe any potential risks to the subjects (physical, psychological, social, legal, etc.) and assess their likelihood and seriousness. Research involving children must carefully assess risks and describe the safeguards in place to minimize these risks.

   • There are no anticipated risks to participation in this study.

5. Describe the procedures you will use to maintain the confidentiality and privacy of your research subjects and project data.

   • Each participant's information and responses will be coded in a way that eliminates any identifiable information, so that each participant's responses are kept confidential.
   • Email addresses will be collected through a separate form after completion of the survey. Therefore, any potential identifying information (email addresses) cannot be linked with response information on the survey.
6. Describe your plan for informed consent (attach proposed form).

- Study participants will view the informed consent form prior to participating in the study, labeled as the first question at the start of the survey. Participants will be given the option to select “Yes” wishing to proceed to the survey, or select “No” and opt out of participating in the study.
- The informed consent will include the instructions for participating in the study, as well as the study’s purpose, risks, benefits, voluntary basis for participating, information regarding confidentiality, and contact information for the study investigator.
- The participants will also be informed that their choosing to continue on to complete the survey will be considered their consent to participate in the study.

7. Discuss the importance of the knowledge that will result from your study and what benefits will accrue to your subjects (if any).

- Previous research using the Behavioral Risk Factor Surveillance System (BRFSS) indicated that physicians and other medical health professionals have very good health habits compared with the general population, even when compared with other individuals of high socioeconomic status (SES). There is no current research using the BRFSS examining how psychologists’ health habits compared with the general population. It is important to investigate personal health behaviors of psychologists because there has been research to support these behaviors impact health professionals’ frequency of health behavior change counseling and confidence in counseling abilities.
- The psychologists may benefit from this study by becoming more aware their own personal health behaviors and how such behaviors impact counseling of patients.

8. Explain how your proposed study meets criteria for exemption from Institutional Review Board review (as outlined on page 1 of this form).

- There appears to be no potential risk involved for participants in this study.
- Research involves survey procedures, where the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
Appendix B

Informed Consent

Dear Participant,

The purpose of this study is to investigate the health and behavioral health practices of licensed psychologists and clinical/counseling psychology graduate students. After you have completed your responses to the survey, you will be able to enter into a raffle to win a $100 Visa gift card.

Instructions:

1. Please read all information presented and answer accordingly.

2. Click “Submit” once you are satisfied with all of your responses.

3. Click on the link and enter your email address to be eligible to win a gift card. 
   NOTE: Email addresses are collected in a secondary form to ensure participants’ identifying information is separate and responses on the survey are kept confidential.

Your completion of these instructions will be considered your consent to participate in this study. Participation in this study is strictly voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or loss of benefits to which you are otherwise entitled. All information that you provide will be kept entirely confidential. There are no foreseeable risks involved in participating in this study. Benefits of participating in the study may include gaining awareness into personal health behaviors and a chance at winning a gift card.

Please feel free to contact me at abarnett2013@my.fit.edu with any questions or comments regarding the study.

Respectfully,

Alexa Barnett, M.S.
Appendix C

Personal Health Behaviors of Professional Psychologists and Trainees Across Types of Settings Survey

1. Are you currently a professional psychologist?
   - Yes [Skip to question 3]
   - No

2. Are you currently a psychology trainee (i.e., graduate student, pre-doctoral intern, or post-doctoral resident)
   - Yes
   - No [TERMINATE]

3. Please indicate the setting of your primary employment/internship/practicum position.
   - University/Academic settings
   - Independent practice
   - VA medical center
   - General Hospital
   - Psychiatric hospital
   - Nursing home
   - University/college counseling center
   - Outpatient clinic
   - Rehabilitation facility
   - Primary Care Office
   - Managed care
   - Business/ govt and other
   - Other human service setting

4. Does your primary setting of employment/internship/practicum position serve individuals on an inpatient or outpatient basis? If your setting serves both inpatient and outpatient populations, which population do you spend the majority of your time with?
   - Inpatient
   - Outpatient

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5. Do you yourself work with primarily children (ages 0-17) or adults (ages 18+)?
   o Children
   o Adults

6. How many hours per week do you spend in the following activities in your primary employment/practicum position?
   *(Write the hours for each activity in the boxes.) Write “0” if you do not engage in a particular activity. YOUR ANSWERS SHOULD ADD UP TO THE TOTAL NUMBER OF HOURS PER WEEK IN YOUR PRIMARY POSITION

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Direct client/patient care (assessment, evaluation, etc.)</td>
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<tr>
<td>Practice Management</td>
<td></td>
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<tr>
<td>Clinical supervision (staff and trainees)</td>
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<tr>
<td>Clinical/community consultation and prevention</td>
<td></td>
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<tr>
<td>Educational activities (teaching, course evaluation, etc.)</td>
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<tr>
<td>Management and administration (policy/program development, etc.)</td>
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<tr>
<td>Research (basic and applied)</td>
<td></td>
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<tr>
<td>Other activities not mentioned above</td>
<td></td>
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</tbody>
</table>

7. Are you Hispanic or Latino?
   o Yes
   o No
   o Don’t know / Not sure

8. Which one or more of the following would you say is your race?
   o White
   o Black or African American
   o Asian
   o Native Hawaiian or Other Pacific Islander
   o American Indian or Alaska Native
   o Other [specify]________________

9. What is your age?
   o ___ Code age in years
   o Don’t know / Not sure
10. Indicate sex
   - Male
   - Female
   - Transgender Male
   - Transgender Female

11. About how much do you weigh without shoes?
   - _ _ _ _ [specify in pounds]
   - Don’t know / Not sure

12. About how tall are you without shoes?
   - _ _ _ Height [specify in inches]

13. Would you say that in general your health is—?
   - Excellent
   - Very good
   - Good
   - Fair
   - Poor
   - Don’t know / Not sure

14. Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?
   - _ _ Number of days
   - None
   - Don’t know / Not sure

15. Now thinking about your nutritional health, for how many days during the past 30 days did you consume healthy meals (i.e., fruits, vegetables, preparing meals with nutritional content in mind)?
   - _ _ Number of days
   - None
   - Don’t know / Not sure
16. Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?
   - __ Number of days
   - None
   - Don't know / Not sure

   ➢ IF NONE above 2 questions go to next section, go to question 18

17. During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?
   - __ Number of days
   - None
   - Don't know / Not sure

18. Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare or Indian Health Services?
   - Yes
   - No
   - Don't know / Not sure

19. Do you have one person you think of as your personal doctor or health care provider?
   - Yes, only one
   - More than one
   - No
   - Don’t know / Not sure

20. Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?
   - Yes
   - No
   - Don’t know / Not sure
21. About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition
   - Within past year (anytime less than 12 months ago)
   - Within past 2 years (1 year but less than 2 years ago)
   - Within past 5 years (2 years but less than 5 years ago)
   - 5 or more years ago
   - Don’t know / Not sure
   - Never

22. Have you smoked at least 100 cigarettes in your entire life? NOTE: 5 packs = 100 cigarettes
   - Yes
   - No [Skip to question 25]
   - Don’t know / Not sure [Skip to question 25]

23. Do you now smoke cigarettes every day, some days, or not at all?
   - Every day
   - Some days
   - Not at all [Skip to question 25]
   - Don’t know / Not sure [Skip to question 25]

24. During the past 12 months, have you stopped smoking for one day or longer because you were trying to quit smoking?
   - Yes
   - No
   - Don’t know / Not sure

25. Do you currently use chewing tobacco, snuff, or snus every day, some days, or not at all? NOTE: Snus (Swedish for snuff) is a moist smokeless tobacco, usually sold in small pouches that are placed under the lip against the gum.
   - Every day
   - Some days
   - Not at all
   - Don’t know / Not sure
The next few questions are about exercise, recreation, or physical activities other than your regular job duties.

26. During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?
   - Yes
   - No [Skip to question 35]
   - Don’t know / Not sure [Skip to question 35]

27. How many times per week did you take part in this physical activity during the past month?
   - ____ Times per week
   - Don’t know / Not sure

28. And when you took part in this physical activity, for how many minutes or hours did you usually keep at it?
   - ____ minutes
   - Don’t know / Not sure

29. During the past month, how many times per week did you do physical activities or exercises to STRENGTHEN your muscles? Do NOT count aerobic activities like walking, running, or bicycling. Count activities using your own body weight like yoga, sit-ups or push-ups and those using weight machines, free weights, or elastic bands.
   - ____ Times per week
   - Never
   - Don’t know / Not sure

30. How often do you use seat belts when you drive or ride in a car? Would you say—
   - Always
   - Nearly always
   - Sometimes
   - Seldom
   - Never
   - Don’t know / Not sure
   - Never drive or ride in a car
31. During the past 30 days, how many days per week did you have at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?
   - __ Days per week
   - No drinks in past 30 days [Skip to question 42]
   - Don't know / Not sure [Skip to question 42]

32. One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average?
   - NOTE: A 40 ounce beer would count as 3 drinks, or a cocktail drink with 2 shots would count as 2 drinks.
   - __ Number of drinks
   - Don't know / Not sure

33. Considering all types of alcoholic beverages, how many times during the past 30 days did you have $X$ [$X = 5$ for men, $X = 4$ for women] or more drinks on an occasion?
   - __ Number of times
   - None
   - Don't know / Not sure

34. During the past 30 days, what is the largest number of drinks you had on any occasion?
   - __ Number of drinks
   - Don't know / Not sure

35. During the past 30 days, for about how many days have you felt you did not get enough rest or sleep?
   - __ Number of Days
   - None
   - Don't know / Not sure
36. On average, how many hours of sleep do you get in a 24-hour period? Think about the time you actually spend sleeping or napping, not just the amount of sleep you think you should get.
   NOTE: Enter hours of sleep in whole numbers, rounding 30 minutes (1/2 hour) or more up to the next whole hour and dropping 29 or fewer minutes.
   o  _ _ Number of hours [01-24]
   o  Don’t know / Not sure

37. Please indicate your current primary theoretical orientation:
   o  Behavioral
   o  Biological
   o  Cognitive
   o  Cognitive/Behavioral
   o  Developmental
   o  Family
   o  Humanistic/Existential
   o  Integrative
   o  Interpersonal
   o  Psychodynamic/Psychoanalytic
   o  Systems
   o  Other

38. Please indicate reported training in intervention(s) for health issues:
   o  Read about topic
   o  Attended single workshop
   o  Attended multiple workshops
   o  Clinical course work
   o  Clinical supervision
   o  Primary area of expertise
   o  Other training
   o  No training or expertise

39. Approximately what percentage of your patients do you counsel on some type of health behavior (e.g., diet, exercise, smoking, weight, alcohol consumption, medical adherence, sleep, etc.)?
   _ _ _% of patients
40. Please estimate the number of hours you have spent engaged in training on interventions for health/behavioral medicine issues? _____ (estimated hours)

41. Please indicate the perceived intensity of your training on interventions for health/behavioral medicine issues?
   1 (low intensity) to 5 (high intensity)

42. Approximately what percentage of your time do you spend with the following populations?
   o Direct patient care ___ % of time
   o Inpatient care ____% of time

43. With a typical patient, how often do you actually perform counseling for these activities?

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<th></th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Usually</th>
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<td>Nutrition</td>
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44. In general, how confident are you in your abilities to counsel your patients on health behaviors?

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<th>not at all confident</th>
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<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>extremely confident</th>
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45. How important is counseling patients about health behaviors?
   1 (not at all important) to 9 (extremely important)

46. Are you currently attempting to change the following personal health practices?

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<tr>
<th></th>
<th>Yes</th>
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<tr>
<td>Improve nutrition</td>
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<td>Increase exercise/physical activity</td>
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<td>Lose or gain weight</td>
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<td>Stop or decrease tobacco use</td>
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<tr>
<td>Stop or drink less alcohol</td>
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<tr>
<td>Improve quality or quantity of sleep</td>
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47. To what extent does your own health behavior influence your counseling of patients about these same behaviors?

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<th>not at all</th>
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Table 1  

**Demographic Characteristics of Psychologist, Trainee, and U.S. Adult Samples.**

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<td></td>
</tr>
<tr>
<td>Caucasian</td>
<td>86</td>
<td>98.8%</td>
<td>78</td>
<td>93.9%</td>
</tr>
<tr>
<td>African American</td>
<td>0</td>
<td>0%</td>
<td>3</td>
<td>3.6%</td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>0%</td>
<td>3</td>
<td>3.6%</td>
</tr>
<tr>
<td>Pac. Islander</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>American Indian</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>1.2%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.2%</td>
<td>1</td>
<td>1.2%</td>
</tr>
<tr>
<td>Don’t Know</td>
<td>0</td>
<td>0%</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>4</td>
<td>4.6%</td>
<td>6</td>
<td>7.2%</td>
</tr>
<tr>
<td>Not Hispanic</td>
<td>83</td>
<td>95.4%</td>
<td>76</td>
<td>91.6%</td>
</tr>
<tr>
<td>Don’t know</td>
<td>0</td>
<td>0%</td>
<td>1</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

*Note: P = Professional Psychologists (n=87) ; T = Trainees (n=83) ; PE = Professional Equivalent / High SES Adults (n=92256) ; TE = Trainee Equivalent / Age and Education Level Adults (n=49876).*
Table 2

*Primary Employment/Practicum/Internship Setting of Psychologist and Trainee Samples*

<table>
<thead>
<tr>
<th>Setting</th>
<th>P N</th>
<th>P %</th>
<th>T N</th>
<th>T %</th>
</tr>
</thead>
<tbody>
<tr>
<td>University/Academic</td>
<td>9</td>
<td>10.3%</td>
<td>11</td>
<td>13.3%</td>
</tr>
<tr>
<td>VA Medical Center</td>
<td>5</td>
<td>5.7%</td>
<td>8</td>
<td>9.6%</td>
</tr>
<tr>
<td>General Hospital</td>
<td>12</td>
<td>13.8%</td>
<td>6</td>
<td>7.2%</td>
</tr>
<tr>
<td>Psychiatric Hospital</td>
<td>1</td>
<td>4.6%</td>
<td>5</td>
<td>6.0%</td>
</tr>
<tr>
<td>University/College Counseling Center</td>
<td>4</td>
<td>5.7%</td>
<td>8</td>
<td>9.6%</td>
</tr>
<tr>
<td>Outpatient Clinic</td>
<td>20</td>
<td>23.0%</td>
<td>24</td>
<td>28.9%</td>
</tr>
<tr>
<td>Nursing Home</td>
<td>3</td>
<td>0.0%</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Rehabilitation Facility</td>
<td>2</td>
<td>2.3%</td>
<td>3</td>
<td>3.6%</td>
</tr>
<tr>
<td>Primary Care Office</td>
<td>17</td>
<td>19.5%</td>
<td>11</td>
<td>13.3%</td>
</tr>
<tr>
<td>Business/Gov’t and Other</td>
<td>1</td>
<td>1.1%</td>
<td>1</td>
<td>1.2%</td>
</tr>
<tr>
<td>Other Human Service Setting</td>
<td>12</td>
<td>13.8%</td>
<td>6</td>
<td>7.2%</td>
</tr>
</tbody>
</table>

*Note.* P = Professional Psychologists (n=87); T = Trainees (n=83)
Table 3

*Primary Population Setting of Practice Indicated by Psychologist and Trainee Samples*

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Inpatient</td>
<td>10</td>
<td>11.8%</td>
</tr>
<tr>
<td>Outpatient</td>
<td>75</td>
<td>88.2%</td>
</tr>
</tbody>
</table>

*Note.* P = Professional Psychologists (n=85); T = Trainees (n=83)
Table 4

*Primary Age Population Served as Indicated by Psychologist and Trainee Samples*

<table>
<thead>
<tr>
<th></th>
<th>P</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Minors (0-17 years)</td>
<td>8</td>
<td>9.2%</td>
</tr>
<tr>
<td>Adults (18+ years)</td>
<td>79</td>
<td>90.8%</td>
</tr>
</tbody>
</table>

*Note.* P = Professional Psychologists (n=87); T = Trainees (n=83)
Table 5

_Comparison of Health Behaviors for Psychologist, Trainee, and U.S. Adult Samples_

<table>
<thead>
<tr>
<th>Variable</th>
<th>P vs. T</th>
<th>P vs. PE</th>
<th>T vs. TE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition</td>
<td>ns</td>
<td>ns</td>
<td>T &gt; TE</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>ns</td>
<td>P &gt; PE</td>
<td>T &gt; TE</td>
</tr>
<tr>
<td>BMI</td>
<td>ns</td>
<td>P &lt; PE</td>
<td>T &lt; TE</td>
</tr>
<tr>
<td>Smoking</td>
<td>ns</td>
<td>ns</td>
<td>Ns</td>
</tr>
<tr>
<td>Alcohol</td>
<td>ns</td>
<td>P &gt; PE</td>
<td>T &gt; TE</td>
</tr>
<tr>
<td>Sleep</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
</tbody>
</table>

*Note. P = Professional Psychologists; T = Trainees; PE = Professional Equivalent High SES Adults; TE = Trainee Equivalent Age and Education Level Adults; ns = not significant.*

p value significant at p < .01 level
Table 6

*Perceived Confidence in Counsel on Health Behaviors for Professionals and Trainees*

<table>
<thead>
<tr>
<th></th>
<th>P N=87</th>
<th></th>
<th>T N=83</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Nutrition</td>
<td>6.71</td>
<td>2.16</td>
<td>5.13</td>
<td>2.22</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>7.03</td>
<td>1.97</td>
<td>5.90</td>
<td>2.00</td>
</tr>
<tr>
<td>Weight</td>
<td>6.73</td>
<td>2.27</td>
<td>5.03</td>
<td>2.30</td>
</tr>
<tr>
<td>Tobacco Use</td>
<td>6.91</td>
<td>2.21</td>
<td>5.06</td>
<td>2.16</td>
</tr>
<tr>
<td>Alcohol</td>
<td>6.89</td>
<td>2.02</td>
<td>5.74</td>
<td>2.09</td>
</tr>
<tr>
<td>Sleep</td>
<td>7.56</td>
<td>1.70</td>
<td>6.81</td>
<td>1.70</td>
</tr>
</tbody>
</table>

*Note.* P = Professional Psychologists; T = Trainees.
Table 7

*Perceived Influence of Personal Health Behaviors on Counseling of Psychologist and Trainee Samples*

<table>
<thead>
<tr>
<th>Behavior</th>
<th>P N=87</th>
<th>T N=83</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Nutrition</td>
<td>5.03</td>
<td>2.72</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>5.19</td>
<td>2.71</td>
</tr>
<tr>
<td>Weight</td>
<td>4.93</td>
<td>2.73</td>
</tr>
<tr>
<td>Tobacco Use</td>
<td>3.53</td>
<td>3.04</td>
</tr>
<tr>
<td>Alcohol</td>
<td>3.75</td>
<td>2.83</td>
</tr>
<tr>
<td>Sleep</td>
<td>4.92</td>
<td>2.70</td>
</tr>
</tbody>
</table>

*Note.* P = Professional Psychologists; T = Trainees.
Table 8

Mean and Standard Deviation of Counseling Variables as Indicated by Psychologists and Trainees

<table>
<thead>
<tr>
<th>Variable</th>
<th>P N=87</th>
<th>T N=83</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Nutrition</td>
<td>3.30</td>
<td>.908</td>
</tr>
<tr>
<td>Physical Activity</td>
<td>3.74</td>
<td>.872</td>
</tr>
<tr>
<td>Weight</td>
<td>3.13</td>
<td>.855</td>
</tr>
<tr>
<td>Tobacco Use</td>
<td>3.06</td>
<td>.991</td>
</tr>
<tr>
<td>Alcohol</td>
<td>3.33</td>
<td>.872</td>
</tr>
<tr>
<td>Sleep</td>
<td>3.93</td>
<td>.893</td>
</tr>
</tbody>
</table>
Table 9

One Way Analysis of Variance Summary Table for the Examination of Counseling On Nutrition Across Inpatient and Outpatient Settings

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.051</td>
<td>.051</td>
<td>.049</td>
<td>.825</td>
<td>.000</td>
</tr>
<tr>
<td>Within-Group</td>
<td>141</td>
<td>146.903</td>
<td>1.042</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>142</td>
<td>146.954</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. p value significant at the p<0.05 level
Table 10

*One Way Analysis of Variance Summary Table for the Examination of Counseling On Exercise and Physical Activity Across Inpatient and Outpatient Settings*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.100</td>
<td>.100</td>
<td>.132</td>
<td>.717</td>
<td>.001</td>
</tr>
<tr>
<td>Within-Group</td>
<td>140</td>
<td>106.179</td>
<td>.758</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>141</td>
<td>106.279</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. p value significant at the p<0.05 level*
Table 11

*One Way Analysis of Variance Summary Table for the Examination of Counseling On Weight Management Across Inpatient and Outpatient Settings*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>1.204</td>
<td>1.204</td>
<td>1.315</td>
<td>.253</td>
<td>.009</td>
</tr>
<tr>
<td>Within-Group</td>
<td>140</td>
<td>128.149</td>
<td>.915</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>141</td>
<td>129.353</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. p value significant at the p<0.05 level*
Table 12

One Way Analysis of Variance Summary Table for the Examination of Counseling On Tobacco Use Across Inpatient and Outpatient Settings

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>3.859</td>
<td>1.094</td>
<td>3.528</td>
<td>.062</td>
<td>.025</td>
</tr>
<tr>
<td>Within-Group</td>
<td>140</td>
<td>153.120</td>
<td>.915</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>141</td>
<td>156.979</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. *p* value significant at the *p*<0.05 level
Table 13

One Way Analysis of Variance Summary Table for the Examination of Counseling On Alcohol Misuse Across Inpatient and Outpatient Settings

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.842</td>
<td>.842</td>
<td>1.009</td>
<td>.317</td>
<td>.007</td>
</tr>
<tr>
<td>Within-Group</td>
<td>140</td>
<td>116.841</td>
<td>.835</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>141</td>
<td>117.683</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. p value significant at the p<0.05 level*
Table 14

One Way Analysis of Variance Summary Table for the Examination of Counseling On Sleep Hygiene Across Inpatient and Outpatient Settings

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.168</td>
<td>.168</td>
<td>.202</td>
<td>.654</td>
<td>.001</td>
</tr>
<tr>
<td>Within-Group</td>
<td>140</td>
<td>116.855</td>
<td>.835</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>141</td>
<td>117.023</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. p value significant at the p<0.05 level*
Table 15

One Way Analysis of Variance Summary Table for the Examination of Counseling On Nutrition When Treating Children and Adults

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>1.694</td>
<td>1.694</td>
<td>1.611</td>
<td>.206</td>
<td>.011</td>
</tr>
<tr>
<td>Within-Group</td>
<td>143</td>
<td>150.372</td>
<td>1.052</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>152.066</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. p value significant at the p<0.05 level
Table 16

One Way Analysis of Variance Summary Table for the Examination of Counseling On Exercise and Physical Activity When Treating Children and Adults

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.659</td>
<td>.659</td>
<td>.887</td>
<td>.348</td>
<td>.006</td>
</tr>
<tr>
<td>Within-Group</td>
<td>142</td>
<td>105.564</td>
<td>.743</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>106.223</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. p value significant at the p<0.05 level
Table 17

*One Way Analysis of Variance Summary Table for the Examination of Counseling On Weight Management When Treating Children and Adults*

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.885</td>
<td>.885</td>
<td>.973</td>
<td>.326</td>
<td>.007</td>
</tr>
<tr>
<td>Within-Group</td>
<td>142</td>
<td>129.188</td>
<td>.910</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>144</td>
<td>130.073</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. p value significant at the p<0.05 level*
Table 18

One Way Analysis of Variance Summary Table for the Examination of Counseling On Tobacco Use When Treating Children and Adults

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.483</td>
<td>.483</td>
<td>.447</td>
<td>.505</td>
<td>.003</td>
</tr>
<tr>
<td>Within-Group</td>
<td>142</td>
<td>153.215</td>
<td>1.079</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>153.698</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. p value significant at the p<0.05 level
Table 19

One Way Analysis of Variance Summary Table for the Examination of Counseling On Alcohol Misuse When Treating Children and Adults

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.735</td>
<td>.735</td>
<td>.999</td>
<td>.319</td>
<td>.007</td>
</tr>
<tr>
<td>Within-Group</td>
<td>142</td>
<td>104.487</td>
<td>.736</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>143</td>
<td>105.222</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. p value significant at the p<0.05 level*
Table 20

One Way Analysis of Variance Summary Table for the Examination of Counseling On Sleep Hygiene When Treating Children and Adults

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between-Group</td>
<td>1</td>
<td>.789</td>
<td>.789</td>
<td>.953</td>
<td>.331</td>
<td>.007</td>
</tr>
<tr>
<td>Within-Group</td>
<td>141</td>
<td>116.693</td>
<td>.828</td>
<td></td>
<td></td>
<td></td>
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Note. p value significant at the p<0.05 level