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Dualism, Physicalism, and Professional or Alternative Health Seeking: A Gendered Perspective

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Abstract

Evidence supporting a range of 6-14 years between mental illness symptom recognition and psychological help seeking has spurred a substantial interest in help seeking barriers. The present study suggests that mind and body dualism, the perceiving of the mind as an entity distinct from the body, is one such barrier to help seeking. Despite the fact that beliefs in mind-body dualism or its opposite, that of physicalism, are evident in virtually all human cultures and religions, surprisingly little is known about the psychological and behavioral implications of holding such beliefs. An exception to this disparity is a study that demonstrated a connection between dualism and decreased engagement in healthy behaviors, such as exercise and eating habits (Forstmann et al., 2012). The aim of the present study was to expand on these findings by investigating the effects of mind-body beliefs and gender on attitudes towards professional psychological help and holistic or alternative medicines. In accordance with my hypothesis, a MANOVA indicated a main effect of gender, such that women felt more positively than men about seeking professional help for their own mental health problems as well as about the general value of therapy for others. A secondary analysis indicated that participants who self-identified as Jewish felt significantly more positive about psychotherapeutic treatment compared to Christian, Hindu, and Buddhist religious groups. Future research should continue to examine the links between mind-body ideologies, religion, culture, and help seeking through a large-scale correlational analysis utilizing naturally occurring mind-body beliefs.

Dualism, Physicalism, and Professional or Alternative Health Seeking: A Gendered Perspective

Beliefs in the separation of mind and body can be found in virtually all human cultures and the question regarding the relationship between the two has generated discussion among philosophers and scientists for centuries. The two primary and opposing beliefs are that of dualism, the idea that the mind and body are separate entities, and physicalism, the idea that mind and body belong to the same physical entity. Additionally, mental health professionals have long sought to understand attitudes and beliefs about psychotherapy and the various barriers to help seeking in order to connect patients with appropriate evidence-based interventions. This paper unifies these two long-standing fields of research and explores the possibility that holding certain mind-body beliefs operate as a barrier to help seeking.

Barriers to Help Seeking

Mind, body, and attitudinal barriers. Research documents a substantial gap between the time when people first experience symptoms of mental illness and when they pursue treatment for these conditions (Kohn, Saxena, Levav, & Saraceno, 2004). These delays are typically long, ranging from 6 to 14 years across disorders (Christiana et al., 2000). In reaction to this fact, an extensive body of research has attempted to explore barriers to mental health care, which have been broadly categorized into knowledge based, structural, and attitudinal barriers (Thompson, Hunt, & Issakidis, 2004). Knowledge-based barriers relate to a lack of information about mental illness and available treatments, structural barriers refer to a lack of time or financial resources, and attitudinal barriers involve a person's negative beliefs about treatment.

This study will primarily concern attitudinal barriers such as stigma, fear, or negative beliefs about treatment. The way in which mind-body beliefs fall under the domain of attitudinal barriers and act as a barrier to help seeking will be explored. This issue is of the utmost

importance considering a study on health treatment in the United States which concluded that despite increases in psychological treatment over time, the use of mental health services remains disturbingly low (Wang et al., 2005).

Stigma as a barrier. One factor impeding care seeking and undermining the psychological service system is the stigma surrounding mental illness. Stigma, in this case, can be described as the discrediting of individuals as a result of their association with mental health services. Corrigan, Druss, and Perlick (2014) built upon the previously described notion of knowledge-based barriers, suggesting that insufficient knowledge about the treatment of mental illness leads to stigmatized attitudes and, in some cases, discriminatory behavior. As mental health professionals distinguish between ‘real’ pain located in the body and pain located in the mind, a powerful resultant stigma emerges which ultimately causes patients to question the reality of their mental health symptoms (Carella, 1974; Luhrmann, 2000). In addition, patients’ aversive perceptions of mental illness and treatment can negatively affect therapeutic sessions and, in some cases, derail intervention entirely. Research suggests that up to 20% of individuals discontinue treatment prematurely, often after the first or second session (Corrigan et al., 2014). Chase (2012) has argued that holding a dualistic perspective regarding mind-body relations may be a prominent contributing factor to the negative perceptions and stigma associated with mental illness.

Fear as a barrier. Another barrier to help seeking includes patient fear. Kushner and Sher (1991) defined treatment fearfulness as “the subjective state of apprehension that arises from aversive expectations about the seeking and consumption of mental health services” (p. 197). This fear is complex and multidimensional in nature and is most likely influenced by a variety of cultural and social factors. In a study of treatment fearfulness by Zartaloudi and

Madianos (2010), participant orientation towards the use of their social support network was positively linked with attitudes toward seeking help from a mental health specialist and negatively linked with help seeking fear. Additionally, when the fears and worries of treatment were greater, the period between symptom onset and help seeking was longer.

Other studies have attempted to break down the fear construct into smaller categories of causal factors. For example, Vogt, Fox, and Di Leone's (2014) study of war veterans reported a substantial portion of respondents who had fear about the side effects of psychotropic medications. Different populations may have different treatment concerns; however, data support the notion that fear, regardless of its source, influences expectations about the mental health system and subsequent willingness to seek psychological assistance.

The Gendered Experience

Help seeking in men. A host of studies have reported that men are often reluctant to use psychological services compared to their female counterparts (Ji Zhang & Wang, 2013; Syzdek, 2013). Men's help seeking barriers include a lack of willingness to express affect, embarrassment, and anxiety related to the therapeutic context (cited in Yousaf, Papat, & Hunter, 2014). It is possible that these barriers directly result from male endorsement of strict hegemonic gender roles. One study used the Male Role Norm Inventory to explore the relationship between masculine identities and attitudes towards mental health seeking (Yousaf et al., 2014). In line with previously stated claims, the data showed a strong negative correlation between hegemonic masculine identity and men's psychological help seeking attitudes. A study looking at men's reactions to mental health labels found that, overall, men were largely ambivalent about therapeutic treatment (Berger, Addis, Green, Mackowiak, & Goldberg, 2013). In another study of 176 undergraduate men, it was concluded that self-stigma of seeking help and attitudes toward

seeking help emerged as mediating factors between gender role conflict and intentions to seek help (Shepherd & Rickard, 2012).

Help seeking in women. In addition to the research revealing male reluctance to help seeking, several studies have reported women's heightened willingness to use mental health services (Kessler, Brown, & Broman, 1981; Pandalangat, 2014). Kessler and colleagues (1981) suggest women have a greater propensity to seek professional help on the grounds that women are more likely than men to acknowledge their symptoms of emotional distress. This assumption is supported by Koopmans and Lamers (2007) who developed a model to explain gender differences found in a variety of categories: Somatic morbidity, mental distress, perceived symptoms, poor subjective health, and propensity to use services. Women in this study showed higher levels across all variables compared to men, indicating that women are more willing to identify and report instances of mental distress. Another study found women to exhibit especially positive help seeking attitudes regardless of how educated they were (Mackenzie, Gekoski, & Knox, 2006). Researchers in this study, once again, concluded that women value treatment as a result of their heightened likelihood to recognize and label emotional distress within themselves. Taken together, these findings demonstrate an overwhelming and uncontested support for a gendered experience of mental health and help seeking.

The Role of Religion and Culture

The mind-body distinction causes and is caused by varying constructions and deconstructions of the self across cultural and religious groups, drawing on a large hierarchy of dichotomies: culture-nature, emotion-rationality, and tradition-modernity (Kohrt & Harper, 2008). The existing research suggests that these dichotomies have many implications in the

biomedical context (Luhmann 2000). Factors such as culture and religiosity, therefore, are likely to influence the way an individual perceives and consumes professional psychological help.

When speaking of religiosity as an influence on help seeking behavior, one must first look at larger thematic cross-cultural differences, namely between the East and the West. The science of medicine in the West is dominated by an implicit dualism, which emphasizes a distinction between the mind and the body (Dobbin & Ross, 2012). In fact, anthropologists and psychiatrists traditionally have used the salience of the mind-body dichotomy to distinguish Western from non-Western epistemologies. In some cases, the division of mind and body in modern medicine drives an emphasis on bodily presentation of psychological distress and/or a lack of willingness to seek psychological help (Kohrt & Harper, 2008). In addition to these larger geographical distinctions, there are implicit mind-body beliefs in virtually all human cultures that allow for beliefs in heaven and hell, reincarnation, and spirits (Bloom, 2007). Research has shown that religious affiliation and a person's degree of religiosity may be influential factors in help seeking attitudes and behavior.

Among the literature examining mental health treatment across diverse ethno-racial and religious communities, McGowan and Midlarsky (2012) examined the role of religiosity in attitudes toward help seeking in a population of 307. Results supported the researcher's hypothesis: Those who were higher in intrinsic religiosity reported less favorable attitudes toward mental health professionals, including a lower tolerance for stigma and lower levels of interpersonal openness. These findings were consistent with a study of protestant Christians that found a significant negative correlation between religiosity and attitudes towards help seeking (Thompson, 2010). Taken together, these findings suggest an important role not only for

religion, but also for degree of religious belief, in determining whether or not individuals will seek psychological help.

Riekki, Lindeman, and Lipsanen (2013) found that those who believed the mind was dualistically detached from the brain and body, also tended to hold stronger afterlife beliefs. Given dualism and afterlife beliefs were strongly related to religiosity, one might conclude that mind-body dualists will have less favorable attitudes towards psychological therapy. While it is true that various religious philosophies hold different attitudes about mind-body connectivity, literature supports the claim that religious affiliation and degree of religiosity play an interesting role in attitudes towards psychotherapy.

The Philosophical Origins of Mind and Body

Dualism. The issue of mind and body and how they are related was first extensively discussed by 16th-century French philosopher Rene Descartes, who suggested that minds and physical bodies should be considered two distinct entities. Cartesian dualism held that the mind is an immaterial substance, qualitatively different and independent from the physical realm. Furthermore, it suggested “that ‘the person’ is much larger than our deliberate conscious capacities and that, as inwardly experienced persons, we are far larger and include much more than we are (or can be) aware of” (Gendlin, 2000, p. 109). Individuals tend to perceive their minds to be qualitatively different from their bodies in the sense that thoughts and emotions remain private, whereas bodies are capable of interacting tangibly with the outside world. Because of this, some theorists argue that dualism is an intuitive solution to the mind-body problem (Hart, 2007). For example, Forstmann, Burgmer, and Mussweiler (2012) argue that humans have a natural inclination towards dualism and are “natural-born dualists” (p. 1239).

Physicalism. The opposite view, that of physicalism, perceives mind and body as rooted in one physical being or entity. This was first seen in philosopher Baruch Spinoza's literary work, *Ethics*, which addressed the relatedness of the human mind and body and rejected traditional Cartesian dualism (Maher, 1900). For Spinoza, the mind and body are the same substance. Thus, mind and body are ontologically the same thing and the mind is inseparable from the body, and vice versa. Spinoza argues, "the mind is united to the body because the body is the object of the mind" (de Spinoza, 1970, p. 100).

Other mainstream thinkers followed in Spinoza's footsteps, including B.F. Skinner, whose behaviorist theories proposed that all aspects of mind and mental life are expressed in terms of bodily behavior (Skinner, 1971). Since then, ailments of the mind have arisen as a major health concern and scientists and psychologists alike have begun to question traditional mind-body distinctions. In fact, "advances in neurobiology in the past 20 years suggest that the Cartesian brain/body separation is unhelpful and redundant" (Dobbin & Ross, 2012, p. 136). The adaptation of mind-body physicalism into modern thought and mental health is reflected in Haven (2009), who has adopted a physicalist approach for the purpose of listening and communicating with trauma victim patients. This approach attempts to alleviate symptoms of dissociation by improving the clients' ability to care for their own bodies. Gestalt therapy is another example of physicalist innovation in psychological treatment because it uses bodily posture, gestures, muscle tension, and breathing patterns as a therapeutic expression of the mind and the self (Hershbell, 1998).

Mind, Body, and Behavior

As the mind-body problem drifts from Cartesian philosophy towards scientific and empirical data, the question is: How do dualist and physicalist beliefs influence an individual's

behavior? Recent years have seen an explosion of new work at the intersection of philosophy and experimental psychology. This work takes the concerns of moral and conceptual issues that have long been associated with philosophy, and connects them with the use of systematic and well-controlled investigations that are more typically found in psychology. Work in this line of study often goes under the name ‘experimental philosophy.’ This emerging field of study has forged an empirical connection between philosophical thought and consequential beliefs and behaviors.

The discipline of psychology, however, has produced very little research examining the way beliefs about mind-body connectivity influence help seeking behavior. In fact, we know more about children’s views on the mind-body-brain relationship than we do about those of the average adult (Stanovich, 1989). Following Descartes, the problem of the mind (a strictly psychic process) influencing behavior (a strictly somatic process) was viewed with much skepticism. Nonetheless, 19th century developments in psychology and philosophy expanded familiarity with the thesis that mental beliefs and illness produce alterations in the state of the body and vice versa (Susman, 2001). Connolly (2013) has suggested that a disembodied sense of body ownership is an important side effect of holding dualistic beliefs and can have a significant influence on the self-agency component of behavior. Even basic functions, according to Connolly, such as eating, drinking, and breathing, stem from the interaction between our bodies and our minds. According to Bloch (1985), these interactions help to determine day-to-day human behaviors.

Mind-Body Medicine

Traditional approaches to health and healing have addressed the role of both mind and body; however, more often than not, modern medicine has neglected the aspects of mind and spirit in favor of a materialistic bias and bodily emphasis. The silver lining to this is that “an

exclusive emphasis on the biological aspect of healing has provided the West with advanced diagnostic and therapeutic approaches, safe surgery, risk-reduction strategies, an extended lifespan, and a better life” (Dacher, 2014, p. 148). Nonetheless, disregard of the mind and the inner aspects of healing have left modern medicine with an entirely new set of ailments within the psychological domain of disease and illness.

As a result of gradual and heightened awareness of the detrimental effects of negative mental states (i.e., stress) on accompanying biological function, efforts have been made to harness mindfulness-based training as an intervention to enhance mental and biological function (Fricchione, 2014). These mind-body interventions tend to fall under a larger category of medicine, called complementary and alternative medicine (CAM). According to Park (2012), “CAM practices tend to promote a holistic view of health and relations between the mind and body, with many types of CAM treating nutritional, emotional, social, and spiritual aspects as well as physical manifestations of illness” (p. 46). In other words, the prevalent conceptualizations of the body, health, and illness in many alternative and complementary practices resonate strongly with the interconnectedness of the body found in physicalist theory (Sointu, 2011).

Taking these assertions into consideration, it is reasonable to assume that individuals with a physicalist view of the mind and body may be more inclined to seek out CAM alternatives to traditional western medicine. Sointu also argues that people’s subjectivities are inextricably marked by femininities and masculinities and this consequently causes them to experience the field of alternative and complementary health practices as gendered subjects. Since, according to Sointu, the realm of holistic health today is dominated by women, it is expected that females will, overall, have more positive attitudes than males about holistic healing and CAM.

Mind, Body, and Help seeking

Although the processes facilitating mind-body dualism are fundamentally rooted in the cognitive system, surprisingly little psychological research has focused on the effects of beliefs about mind-body dualism on attitudes towards help seeking and alternative medicine practices. The present study aims to unite these fields of study and fill the gap in the literature by expanding on research conducted by Forstmann and colleagues, which addressed the relationship between mind-body ideologies and everyday judgment and behavior. These researchers theorized that holding dualistic beliefs would lead people to perceive their body as a “shell” and, thus, neglect it. Investigators manipulated participants’ dualistic beliefs in five sub-studies with three different priming procedures. Vignettes relating to either dualism or physicalism were used as a mode for priming in two of the five sub-studies; the remaining sub-studies primed participants by asking them to unscramble 16 relevant sentences, to view eight health-constraining or health-sustaining pictures, or to define physicalism or dualism in their own words based on a simple definition.

The results provided consistent evidence to support the hypothesis that holding dualistic beliefs decreased the likelihood of engaging in healthy behaviors such as exercise and nutritious eating. Furthermore, the results suggested that holding more physicalist beliefs led to increases in healthy behavior: Participants spontaneously chose, bought, and consumed a healthier meal after engaging in a physicalist priming condition. Forstmann and colleagues’ research, however, ignored the role of gender, which was highly skewed in each of their four conditions. Study 2 used only 30 males, while study 3 used 26 females and only three males and study 4 used 40 females and only two males. Although study 1 had 40 females and 26 males— a slightly more

balanced gender selection— all 66 participants were German-speaking, further contributing to the imbalanced demographic populations.

The present study. Using Forstmann and colleagues' research (2012) as a starting point, a great need arises to assess the effects of dualistic beliefs on other health behaviors, specifically professional psychological, holistic healing, and CAM help seeking. In an effort to thoroughly assess these constructs, the study at hand employed a double-barreled technique by attempting to manipulate mind-body dualism and physicalism while also *measuring* participants' naturally occurring and preexisting mind-body beliefs. To make the distinction between these two separate analyses, the manipulation procedure will effectively be referred to as "Study 1" and the secondary analysis of self-reported mind-body beliefs will be referred to as "Study 2."

It can be said that if one perceives the body to be independent from the mind, "the body becomes nothing but a vessel or a tool that helps the mind interact with the physical world" (Forstmann et al., 2012, p. 1240). Any potential harm to one's mind, therefore, might be considered negligible for a dualist. In contrast, a person who identifies with physicalism might be more inclined to protect their minds in order to protect their bodies. Whether people feel the need to protect their minds in order to protect their bodies should thus directly affect how they view the purpose and value of professional mental health services.

Specifically, I expect there will be a main effect for dualism versus physicalism such that participants who are primed for a physicalist point of view will demonstrate more positive attitudes about seeking professional help for themselves and for others, regardless of gender. Park's (2012) analysis of CAM interventions leads to a second hypothesis, namely that those manipulated by the physicalist condition will also have more positive attitudes about holistic and complimentary medicine, regardless of gender. Furthermore, data provided by Yousaf and

colleagues (2014) and other researchers leads to a third hypothesis: There will be a main effect for gender, with women showing overall more positive attitudes about help seeking in both physicalism and dualism conditions compared to their male counterparts. There is no expected interaction between gender and manipulation. Lastly, all hypothesis are expected to remain consistent in Study 2 assessing self-reported, naturally occurring mind-body beliefs.

Methods

Participants

Study 1. This study included 160 undergraduate students (80 males, 80 females), recruited primarily through the use of student listservs at the Claremont Colleges (Pomona College, Scripps College, Pitzer College, Harvey Mudd College, and Claremont McKenna College). Students were also recruited through Pitzer College Introduction to Psychology courses. The survey link was also posted and shared online via Facebook, so students from other undergraduate institutions were also invited to participate. These institutions included: Bucknell University, Chapman University, University of Washington, and Whitman College.

Of the 160 participants, 62 identified as first-year students, 25 as sophomores, 40 as juniors, and 33 as seniors. All participants therefore ranged in age from 18 to 25 years old with one student who was 52 years old. In response to the question inquiring about religious affiliation, 50.6% of participants identified as atheist or indicated no religious affiliation. In the second largest category, 29.2% of participants identified with a sect of Christianity, including Catholic, Protestant, and Episcopalian. Finally, 23% identified as Jewish, 7% said they were Hindu, Buddhist, or held spiritual beliefs, and 4% identified as some other religion including Hedonism, Unitarian Universalism, and Jainism. Additionally, it is important to note that 99 of

the participants self-identified as white, whereas 22 identified as Asian, 17 as Hispanic or Latino, 7 as Black or African American, and 15 as ‘other’ or mixed race.

Study 2. Participants in Study 2 were selected from the group of respondents who participated in Study 1. In order to determine whether participants’ scores were more in line with dualism or physicalism, a multi-step process was taken. First, composite scores were calculated for questions relating to each mind-body construct (described below). Means and standard deviations were calculated for each construct and participants who scored above the dualism mean and standard deviation ($M = 2.79, SD = 0.66$) and below the physicalism mean and standard deviation ($M = 3.00, SD = 0.72$) were considered “dualists”; 22 participants were categorized as dualists in this manner. Likewise, participants who scored above the physicalism mean and standard deviation and below the dualism mean and standard deviation were considered “physicalists”; 22 participants were categorized as physicalists in this manner. Individuals who scored low on both dualism or physicalism and high on both dualism and physicalism were excluded from the analyses associated with Study 2.

Design

Study 1. The primary study employed a 2 (dualism, physicalism) x 2 (male, female) between-participants factorial design, with 80 males and 80 females; these individuals were divided such that 79 participants were assigned to the dualism condition and 81 participants were assigned to the physicalism condition. Participants were randomly assigned to either the dualism or the physicalism priming manipulation through the use of Qualtrics Survey Software.

Study 2. The secondary analysis employed a one-way MANOVA designed to compare two groups: Participants who were categorized as dualist and participants who were categorized

as physicalist. Due to small sample size, the gender variable was excluded in this study in order to maintain larger groups for the mind-body condition.

Materials

A modification of Stanovich's (1989) 27-item dualism scale, the Mind-Body Relationship Scale (Riecki, Lindeman, & Lipsanen, 2013), was developed to assess conceptions about the relationship between mind and body (Appendix A). This scale was the primary method for evaluating participants' naturally occurring beliefs in Study 2. Because Stanovich's original scale addressed only dualism and many of its items were ambiguous, some items in the modified scale were excluded or simplified, and some items were added. The new scale included 25 items to be rated on a five-point Likert scale. In order to prevent the Mind-Body Relationship Scale from revealing too much information about the study, the order of presentation of the scale was counterbalanced such that participants randomly received the scale either before or after undergoing a priming procedure. The intent of this scale was to assess unmanipulated mind-body beliefs for only the participants who received the scale prior to the priming condition. However, after examining the data and excluding all participants who scored high in both ideologies or low in both ideologies, sample size was too small and participants who received the scale before and after being primed were included for analysis.

All participants were primed through the use of vignettes expressing either dualistic or physicalist ideologies (See Appendices B and C). This priming procedure will, for the remainder of this report, be referred to as the mind-body manipulation. These vignettes were adapted and modified from Forstmann and colleagues' (2012) study, which found this priming procedure to successfully induce the intended beliefs regarding the relationship between mind and body. The vignettes borrowed concepts and phrases from Forstmann, but modified the structure

dramatically to read as a narrative instead of a factual report. This was done intentionally in order to attract the attention and interest of readers and to disguise the true intent of the mind-body manipulation. Following the vignettes, as an additional component of the priming procedure, participants were asked to unscramble eight sentences pertaining to the relevant manipulation (Appendix D). For example, one sentence in the dualism condition stated, “and Mind entities distinct are brain two” which was subsequently unscrambled to “Mind and brain are two distinct entities.”

One prominent standardized instrument exists for the purpose of assessing mental health treatment attitudes that has been both psychometrically examined and used in a sizeable number of studies: the Attitudes Toward Seeking Professional Psychological Help Scale (ATSPPH). The original 29-item scale was first used by Fischer and Turner in 1970 but has since been revised into a 10-item scale (ATSPPH-SF) by Fischer and Farina in 1995. The shortened form served as the primary measure for this research (Appendix E). In this scale, participants are asked to indicate agreement or disagreement with each statement on a four-point Likert scale (0 = disagree, 1 = partly disagree, 2 = partly agree, 3 = agree). Higher scores indicate greater positive attitudes towards seeking professional psychological help, decreased stigma regarding mental health treatment, as well as increases in emotional disclosure, anticipated utility, and patient satisfaction.

A 2008 study investigating the reliability and validity of the ATSPPH-SF in samples of college students and medical patients found it to be sufficient for use (Elhai, Schweinle, & Anderson). In the sample of college students, researchers calculated a coefficient alpha of 0.77, indicating that the measure was reliable. My own measures of reliability indicated a higher Cronbach’s alpha of 0.84. Inter-item correlations in Elhai and colleagues’ study were primarily

0.3 or less, with rare instances approaching 0.5. Validity was assessed through the use of a negative binomial regression, which found a significant relationship between ATSPPH-SF scores and recent mental healthcare use intensity. Furthermore, researchers found that results obtained from the instrument could be subcategorized into a two-factor model (Elhai et al., 2008).

According to the researchers, “the first factor deals mainly with openness to seeking mental healthcare for one’s own emotional problems, while the second factor more generally involves perceptions about the value of treatment” (p. 327). Thus, this scale assessed attitudes towards mental health seeking in three categories: personal openness, general value, and a combination of these two factors.

Lastly, participants were administered the Holistic Complementary and Alternative Health Questionnaire, designed by Hyland, Lewith, and Westoby (2003). The scale is designed to measure two related psychological variables: attitudes towards CAM and/or attitudes towards holistic health beliefs. The eleven-item scale is rated on a six-point Likert scale and can be viewed in full in Appendix F. Cronbach’s alpha was calculated for this measure at 0.63.

Procedure

The study was administered online using Qualtrics Survey Software, provided by Pitzer College. This software automatically randomized participants into each condition and also generated an anonymous link to the survey, which together served to ensure participant confidentiality. After clicking on the anonymous link, all participants were shown an informed consent form. The survey was designed to automatically end if participants did not select ‘yes’ to the consent question. Next, a demographic questionnaire inquired about age, year in school, gender, ethnicity, and religious affiliation. After answering demographic questions, participants were randomly assigned to receive either the priming manipulation first, which consisted of a

vignette and a sentence-unscrambling task, or the Mind-Body Relationship Scale first. Either before or after completing the Mind-Body relationship scale, all participants were randomly assigned to either the physicalism or dualism manipulation, during which they were primed by reading a vignette and then unscrambling sentences about the ideology corresponding to their assigned condition. After finishing the vignette, participants were issued the ATTSPPH-SF.

Following the administration of the ATSPPH-SF, all respondents took the Holistic Complimentary and Alternative Health Questionnaire, which evaluated them on their opinions of two paradigms: Holistic healing and CAM. Lastly, participants were debriefed about the true intent of the study and were also provided with information regarding counseling services on campus in case involvement in the study caused any residual emotional distress.

Results

Study 1

Prior to statistical analysis, composite scores were computed for the three dependent variables in the ATSPPH Scale: personal openness, general value, and a total score for both factors. Questions 1, 3, 5, 7, and 9 contributed to personal openness scores while questions 2, 4, 6, 8, and 10 were summed for general value scores. Questions from the ATPPH-SF were reverse coded appropriately. Composites were also created for the Holistic Complimentary and Alternative Health Questionnaire: Holistic Healing and CAM. Questions 1, 3, 5, 7, and 10 inquired about holistic healing practices and questions 2, 4, 6, 8, 9, and 11 related to opinions of CAM.

A 2 X 2 Multivariate Analysis of Variance (MANOVA) was conducted to evaluate the effects of gender and the manipulation on attitudes towards mental health seeking and attitudes towards alternative medicine use. Both independent variables had two levels; the gender

condition was divided into male and female and the mind-body manipulation was divided into dualism and physicalism. The MANOVA employed an *a priori* alpha level, $\alpha = .05$. The means, standard deviations, and 95% confidence intervals for the five dependent variables as a function of the two factors are presented in Tables 1, 2, 3, 4, and 5.

For the ATSPPH Scale, the MANOVA indicated a significant main effect of gender in all three help seeking outcome variables. There was a significant main effect of gender on personal openness, $F(1, 160) = 7.57, p = .007$, partial $\eta^2 = .05$, on general value, $F(1, 160) = 23.09, p < .005$, partial $\eta^2 = .13$, and on total ATSPPH scores, $F(1, 160) = 17.04, p < .005$, partial $\eta^2 = .10$. These trends can be graphically viewed in Figure 1. However, the MANOVA showed no significant main effect on any of these dependent measures and also no significant interaction between gender and manipulation.

For the Holistic Complimentary and Alternative Health Questionnaire, the MANOVA indicated no significant main effects of either gender or mind-body manipulation on holistic healing or CAM. Furthermore, results demonstrated no significant interaction between gender and manipulation for holistic healing and CAM.

A post-hoc MANOVA was used to evaluate the effects of religion on personal openness, general value, and total scores. Results indicated a significant main effect of religion on general value, $F(4, 160) = 4.40, p = .002$, partial $\eta^2 = .10$, and also on total ATSPPH scores, $F(4, 160) = 4.09, p = .004$, partial $\eta^2 = 0.10$. Additionally, a main effect of religion on personal openness was approaching significance, $F(4, 160) = 2.40, p = .052$, partial $\eta^2 = .06$. These findings can be graphically viewed in Figure 2 and Figure 3. Means, standard deviations, and 95% confidence intervals for the four dominant religious groups' (No Religion, Christian, Jewish, and Hindu/Buddhist) total ATSPPH-SF scores can be viewed in Table 6.

An analysis using Tukey's honest significant difference (HSD) showed that Jewish participants produced higher general value scores than all other groups, with significant differences between Jewish ($M = 16.29$, $SD = 0.65$) and Christian ($M = 13.86$, $SD = 0.43$) participants, $p = .018$, and Jewish and Hindu/Buddhist ($M = 11.17$, $SD = 1.22$) participants, $p = .003$. Post-hoc analyses also yielded significant differences between total ATSPPH scores produced by Jewish ($M = 31.24$, $SD = 1.26$) and Christian ($M = 26.74$, $SD = .823$) groups, $p = .026$, and between total ATSPPH scores produced by Jewish and Hindu/Buddhist ($M = 21.83$, $SD = 2.36$) groups, $p = .005$.

Study 2

A secondary one-way MANOVA was conducted using Mind-Body Relationship Scale scores as fixed factor variables. We would have liked to conduct an analysis using only naturally occurring pre-manipulation beliefs but were unable to do so due to small sample size. Dualists and physicalists who received the scale before and after the mind-body manipulation were consequently included in the analysis; nonetheless, the results indicated no main effect of Mind-Body beliefs on any of the five dependent measures.

Discussion

The goal of this study was to demonstrate that gender and philosophical beliefs, namely that of mind-body dualism or physicalism, influence a person's attitude towards help seeking across four different domains: 1) Personal openness to seeking help for one's own emotional difficulties, 2) Feelings about the general value that psychological services can have for others, 3) Attitudes towards holistic healing practices, and 4) Attitudes towards CAM. In Study 1, I hypothesized that participants primed for a physicalist point of view would demonstrate overall more positive attitudes towards seeking professional psychological help, regardless of gender. A

secondary hypothesis predicted that those primed with physicalist ideologies would also have more positive attitudes about holistic healing and complimentary medicine, regardless of gender. A third hypothesis predicted that women would show overall more positive attitudes in both physicalism and dualism conditions compared to their male counterparts. We hypothesized no interaction between gender and mind-body manipulation. Lastly, all hypothesis were expected to remain consistent in Study 2, which assessed self-reported beliefs about mind and body connectivity.

Contrary to hypothesis one, there was no main effect of priming on personal openness towards help seeking, general value of therapy for others, or total ATSPPH-SF scores. These findings are inconsistent with Forstmann and colleagues' work, which concluded that "mind-body dualism has a considerable impact on people's health-related attitudes and behaviors" (p. 6). Forstmann and colleagues employed similar experimental models and found significant results using analogous vignettes and an identical sentence unscrambling task, rendering the lack of significant findings in the current study rather surprising. Forstmann and colleagues' work, however, assessed the effects of mind-body dualism and physicalism on exercise and nutrition, health acts that mainly concern the body and not the mind. It may be the case that dualists are more likely to ignore ailments of the body rather than ailments of the mind, although this explanation is contrary to the bias modern medicine places on symptoms that manifest in the physical body.

It may also be the case that the priming procedures used in the current study were ineffective or that participants did not engage with the priming materials for an appropriate amount of time. Most notably, respondents were invited to participate in the study from their personal computers, which likely resulted in distractions in the surrounding environment. This is

reflected in the fact that some respondents completed the entire survey in 5-10 minutes, while others spent 30-45 minutes. Respondents who took 5-10 minutes to complete the study might have been exposed to the priming materials for an insufficient duration of time, and therefore less likely to have been effectively manipulated. In regards to methodology, Forstmann and colleague's vignettes were found to successfully produce the intended mind-body beliefs, suggesting that the modified narrative style used in Study 1 was perhaps too frivolous and the information presented too ambiguous. Considering, however, that Forstmann and colleagues' study marked the first time that the effects of mind-body dualism on attitudes and behavior had ever been investigated, future research should continue to explore this phenomenon and the underlying relevant processes.

A second hypothesis predicted that those manipulated with physicalist ideologies would show more positive attitudes towards holistic, complimentary, and alternative medicine, regardless of gender. Note that Cronbach's alpha for the Holistic Complimentary and Alternative Health Questionnaire was somewhat low ($\alpha = 0.63$), indicating a lack of measure reliability. Results showed no main effects of mind-body manipulation or gender on holistic healing or CAM. As expected, there was no significant interaction between these two variables. Sointu (2011) explains that the turn to alternative and complementary health practices is not exclusive to either men or women, which may serve as a possible explanation for why gender, as expected, did not influence attitudes towards holistic healing or CAM. On the other hand, McLaughlin and colleagues (2012) reported that men were 1.79 times more likely to use CAM than females. These diverse findings and opinions suggest that gender may not be a primary influencing variable for help seeking in the realm of alternative health and medicine.

Since gender did appear to be an important factor influencing attitudes about traditional mental health help seeking, an alternative explanation may be that CAM and holistic healing are less stigmatized compared to traditional mental health services and therefore equally accessible to both genders. Given that men experience stigma to a greater degree than women (Chandra & Minkovitz, 2006), this explanation is highly plausible. Alternatively, Honda and Jacobson (2005) conducted a study addressing the relationships between dispositional psychological factors, like personality, and the use of CAM. This study, the first of its kind, found interesting correlations between factors such as extroversion, openness, and perceived friend support, and likelihood of seeking CAM. Although the study did not focus specifically on mind-body connectivity, it suggests that attitudes towards CAM and holistic healing may be influenced by other psychological factors, accounting for why no significant main effect of gender was discovered.

As expected, no significant interaction between gender and mind-body manipulation was found for either the ATSPPH-SF scale or the Holistic Complimentary and Alternative Health Questionnaire. These results do not necessarily mean that gender and mind-body ideals operate independently from each other, but rather that there is currently no credible evidence suggesting that gender interacts with an individual's mind-body beliefs. On the grounds that Loizou, Karageorghis, and Bishop (2014) concluded that priming is most effective when presented through audiovisual mediums, further research may be warranted to reassess the relationship between gender and mind-body belief. Nonetheless, no interaction between variables was hypothesized, which renders these findings unsurprising.

A third hypothesis predicted a main effect of gender, such that women would show overall more positive attitudes towards all five dependent measures in both physicalism and dualism conditions compared to their male counterparts. Partly in line with hypothesized

outcomes, women showed more positive attitudes towards professional psychological help seeking across the three ATSPPH-SF dependent measures: Personal openness, general value, and total scores. The significant main effects of gender are supported by an extensive body of literature (Ji Zhang & Wang, 2013; Kessler et al., 1981; Pandalangat, 2014; Syzdek, 2013). Gendered discrepancies in help seeking behavior are so ubiquitous that one researcher claimed: “Help seeking is viewed as an important health behavior for men because it is one of the least contested sex differences found in psychological literature” (Hoy, 2012, p. 203).

Findings from the present study expand on existing claims about the gendered help seeking experience because they demonstrate how females have positive attitudes both about themselves seeking psychotherapy and also about the general value of psychotherapy for others. Tables 1, 2, and 3 clearly illustrate how females scored higher than men across all three help seeking categories. In a comprehensive meta-ethnographic study of men’s perspectives on psychological distress and help seeking, it was suggested that men value and prefer social support provided by family, friends, and community as their primary means of emotional rehabilitation (Hoy, 2012). Men, therefore, may have their mental health tribulations alleviated by their immediate surroundings and have less of a need, when compared to women, for professional psychological services.

Study 2 hypothesized that self-reported, naturally occurring mind-body dualism and physicalism would be a significant predictor of mental health attitudes, such that physicalists would report more favorable attitudes towards psychotherapy compared to dualists. Insignificant findings in Study 2 are likely due to small sample size ($n = 44$). Furthermore, a handful of self-reported dualists and physicalist had already received the priming materials, which could have subsequently confounded their answers on the Mind-Body Relationship scale. Results from

Study 1 suggest that mind-body beliefs are deeply ingrained in a person's psyche and therefore difficult to influence or change. Future research on this topic should consider a large-scale correlational methods to analyze the relationship between naturally occurring mind-body dualism or physicalism and mental health help seeking behavior.

Lastly, a significant post-hoc analysis of religion, specifically atheism, Christianity, Judaism, and Hinduism/Buddhism, indicated that Jewish participants produced higher ATSPPH-SF scores in comparison to the other three religious groups. Figure 3 graphically shows these results, with Jewish participants scoring five points higher than Christian participants and ten points higher than Hindu and Buddhist participants. The statistical significance of these effects implies that individuals who identify as Jewish are more likely to have positive attitudes about professional psychological help seeking, especially for the general value of psychotherapy. This is consistent with past research suggesting that people who identify as Jewish are more inclined, compared to Protestants and Catholics, to seek out psychotherapists (Fischer & Cohen, 1972). It has been argued that Christians see secular mental-health services as lacking understanding, as insensitive to spiritual issues, and as less likely to deliver real help (Loewenthal, Cinnirella, Evdoka, & Murphy, 2001).

A 2009 study of Vietnamese Americans and help seeking behavior found a negative correlation between spiritual beliefs and attitudes towards seeking help, such that lower levels of spiritual beliefs predicted higher levels of help seeking (Luu, Leung, & Nash). Although this may explain why those who identified as Hindu, Buddhist, or spiritual scored significantly lower on the ATSPPH scale when compared to participants who identified as Jewish, this is contrary to what one would expect, given that South Asians tend to be mind-body physicalists (Patel, 2003). It could, however, be the case that cultural aspects are influencing attitudes towards professional

psychological help more so than mind-body beliefs (Padayachee & Laher, 2014). One reason for this is that Hindu culture continues to emphasize the importance of traditional spiritual leaders who are often called upon to alleviate mental ailments before troubled individuals seek professional services. Additionally, the Hindu/Buddhist/Spiritual group was the smallest of the four groups, with only 6 participants, rendering small sample size as a potential weakness. In addition, the fact that three different religious groups were lumped into one category (on the grounds that they all stemmed from similar geographical and cultural backgrounds) could also be muddling these findings.

It is interesting that religion significantly influenced the dependent variables while mind-body beliefs did not, considering there is something either inherently dualist or inherently physicalist about many different religious beliefs (Bloom, 2007). For example, Judaism emphasizes an inextricable link between the mind and the body, which, as Trimbur (2009) suggests, has a profound influence on the Jewish concept of self. While it is true that the priming procedures may have been ineffective, even self-reported mind-body beliefs assessed by the Mind-Body Relationship scale yielded insignificant effects on the dependent measures. Perhaps the roles of religion and culture are stronger than originally anticipated and they influence a person's beliefs about professional help either more so or independently from mind-body beliefs. Nonetheless, the effects of religion are interesting and future research should further examine the link between mind-body ideologies, religion, culture, and help seeking.

Appropriate consideration must be given to the limitations of this study. Due to small sample size and an overrepresented white and non-religious participant population, readers should interpret results with caution and hesitate before generalizing conclusions to society as a whole. Furthermore, the Claremont Colleges are home to a specific community of students who

are all highly educated and from relatively similar socio-economic and cultural backgrounds. Since beliefs in mind-body dualism are a cross-culturally observable phenomenon, this study may yield more meaningful results if conducted in a context that is culturally diverse in a way that the Claremont Colleges are not. Such a community can be found within the borders of the continental United States, but this study may also flourish cross-nationally.

Mind-body paradigms emerge from some of the most basic processes in human cognition and fundamentally affect the way people perceive themselves and others (Forstmann et al., 2012). Common barriers to help seeking, such as fear or stigma, might very well be rooted in the way an individual perceives their mind in relation to their body as well as the surrounding environment. According to a researcher who investigated the mind-body problem in Nepal, mind-body divisions “provide a window into the stigma of mental illness in cross-cultural settings” (Kohrt and Harper, 2008, p. 464). As America becomes increasingly culturally, ethnically, and racially diverse, it is of the utmost importance for culture and related mind-body beliefs to be taken into consideration within the therapeutic context. If further research is able to successfully highlight the role of mind-body beliefs in attitudes towards mental health services and holistic or complimentary and alternative medicine, one might also be able to construct evidence-based solutions that will close the treatment gap between symptom recognition and help seeking.

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Table 1

Means and Standard Deviations for Openness scores

	Dualism			Physicalism		
	<i>n</i>	<i>M (SD)</i>	95% CI	<i>n</i>	<i>M (SD)</i>	95% CI
Male	37	12.97 (2.63)	[11.84, 14.11]	43	12.37 (3.11)	[11.32, 13.43]
Female	42	14.02 (4.26)	[12.96, 15.09]	38	14.37 (3.69)	[13.25, 15.49]

Note. *n* = sample size; CI = confidence interval; M = mean; SD = standard deviation.

Table 2

Means and Standard Deviations for General Value scores

	Dualism			Physicalism		
	<i>n</i>	<i>M (SD)</i>	95% CI	<i>n</i>	<i>M (SD)</i>	95% CI
Male	37	13.27 (2.60)	[12.32, 14.22]	43	13.35 (3.15)	[12.47, 14.23]
Female	42	15.79 (2.64)	[14.89, 16.68]	38	15.29 (3.25)	[14.35, 16.23]

Note. *n* = sample size; CI = confidence interval; M = mean; SD = standard deviation.

Table 3

Means and Standard Deviations for Total ATSPPH scores

	Dualism			Physicalism		
	<i>n</i>	<i>M (SD)</i>	95% CI	<i>n</i>	<i>M (SD)</i>	95% CI
Male	37	26.24 (4.37)	[24.38, 28.11]	43	25.72 (5.50)	[23.99, 27.45]
Female	42	29.81 (6.31)	[28.06, 31.56]	38	29.66 (6.45)	[27.82, 31.50]

Note. *n* = sample size; CI = confidence interval; M = mean; SD = standard deviation.

Table 4

Means and Standard Deviations for Holistic Healing scores

	Dualism			Physicalism		
	<i>n</i>	<i>M (SD)</i>	95% CI	<i>n</i>	<i>M (SD)</i>	95% CI
Male	37	23.73 (3.41)	[22.63, 24.83]	43	24.19 (3.46)	[23.17, 25.20]
Female	42	24.14 (3.44)	[23.11, 25.17]	37	25.03 (3.17)	[23.93, 26.12]

Note. *n* = sample size; CI = confidence interval; M = mean; SD = standard deviation.

Table 5

Means and Standard Deviations for CAM scores

	Dualism			Physicalism		
	<i>n</i>	<i>M (SD)</i>	95% CI	<i>n</i>	<i>M (SD)</i>	95% CI
Male	37	19.43 (4.43)	[17.97, 20.89]	43	19.72 (3.97)	[18.37, 21.07]
Female	42	18.57 (3.71)	[17.20, 19.94]	37	20.54 (5.76)	[19.08, 22.00]

Note. *n* = sample size; CI = confidence interval; M = mean; SD = standard deviation.

Table 6

Religion Means and Standard Deviations for General Value and Total ATSPPH Scores

	n	M (SD)	95% CI
General Value			
No Religion	81	14.49 (2.93)	[13.84, 15.15]
Christian	49	13.86 (3.36)	[13.01, 14.70]
Jewish	21	16.29 (2.47)	[14.10, 17.57]
Hindu/Buddhist	6	11.17 (2.48)	[8.76, 13.58]
Total			
No Religion	81	27.99 (5.23)	[26.72, 29.26]
Christian	49	26.73 (6.43)	[25.11, 28.36]
Jewish	21	31.24 (6.22)	[28.75, 33.73]
Hindu/Buddhist	6	21.83 (6.24)	[17.16, 26.51]

Note. n = sample size; CI = confidence interval; M = mean; SD = standard deviation.

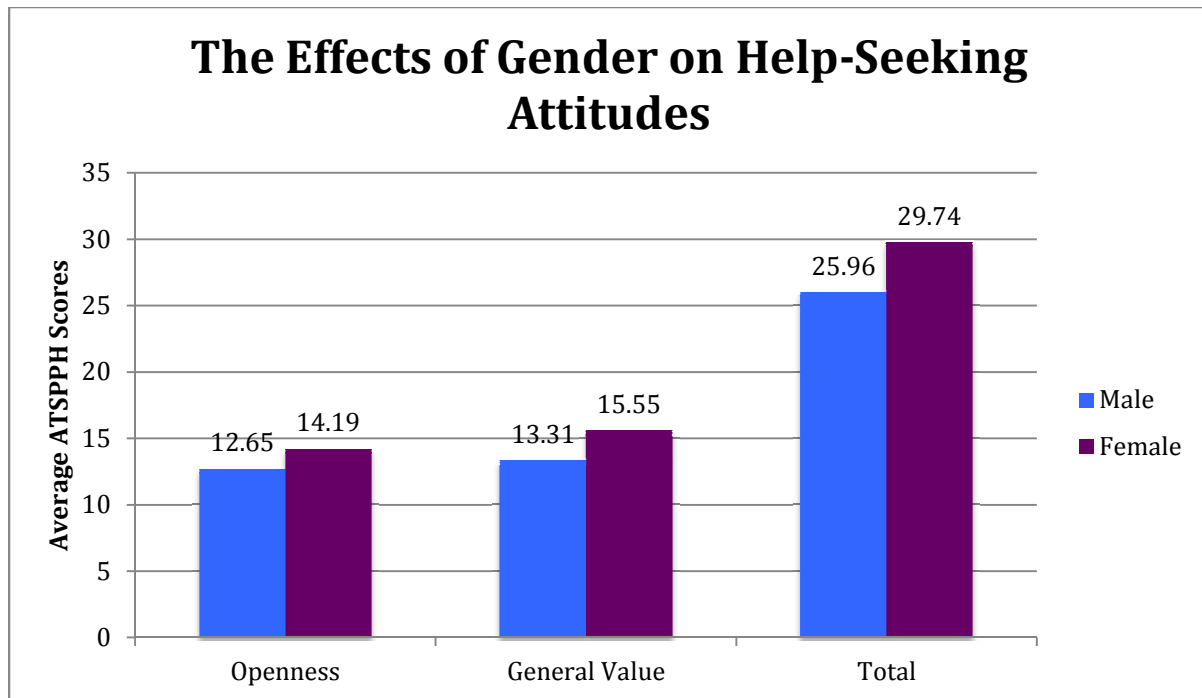


Figure 1: The average openness, general value, and total ATSPPH scores for males and females. Female participants consistently scored higher, indicated more positive attitudes, across all three dependent measures.

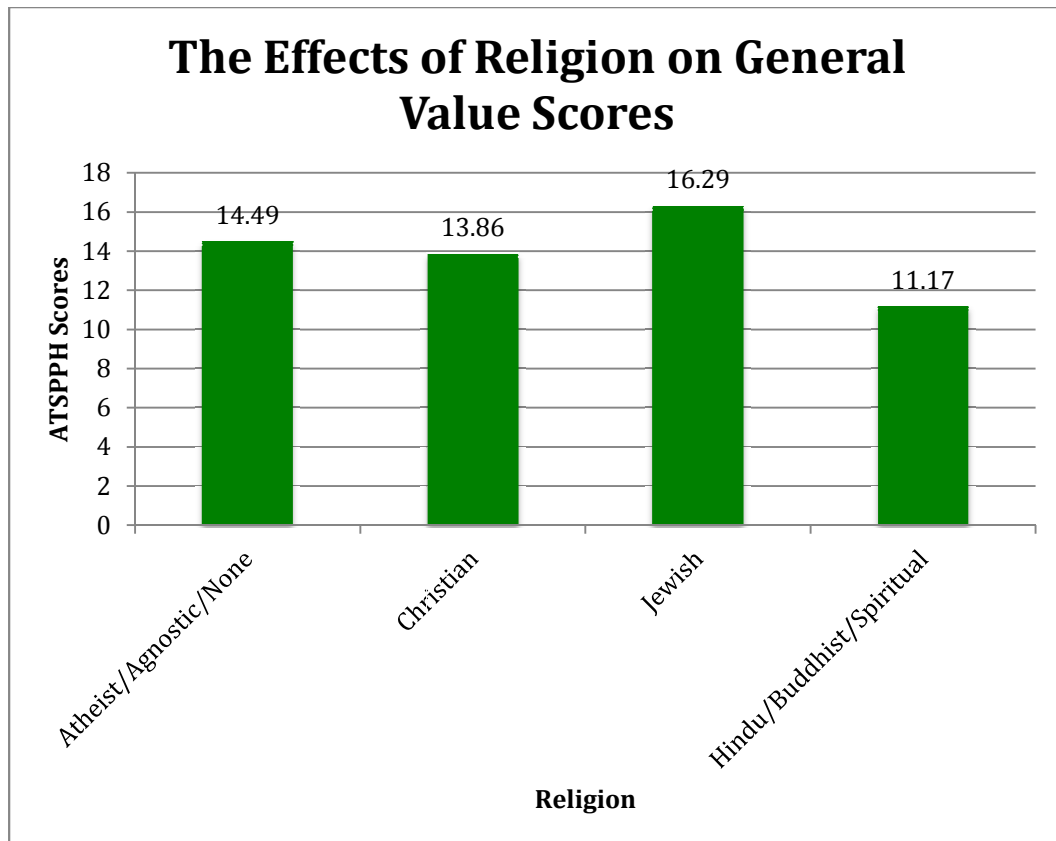


Figure 2: The general value results for religion and ATSPPH-SF scores. This figure shows how Jewish participants believe psychotherapy to have greater general value than all other religious groups, with significant differences particularly between Jewish and Christian groups and between Jewish and Hindu, Buddhist, and Spiritual groups.

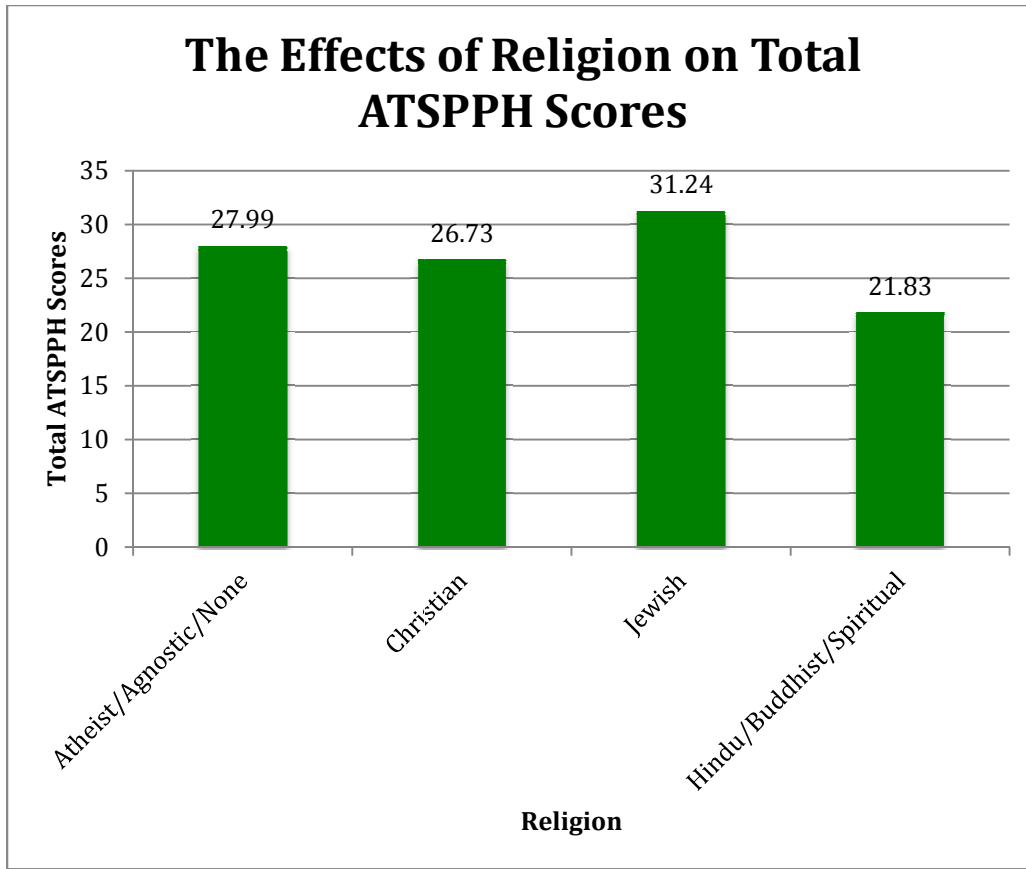


Figure 3: The results for religion and total ATSPPH-SF scores. This figure shows how Jewish participants have more positive attitudes towards psychotherapy than all other religious groups, with significant differences particularly between Jewish and Christian groups and between Jewish and Hindu, Buddhist, and Spiritual groups.

Appendix A

Mind-Body Relationship Scale

1. Minds are in principle independent of bodies, to which they are only temporarily attached.
2. The mind is a special form of energy, currently unknown to man, that is in contact with the brain and affects it.
3. Thought processes cannot be just brain processes.
4. The mind is immaterial and it works with the brain to generate our behavior.
5. The consciousness of myself does not die with my physical body.
6. The body belongs to the world of material and natural laws. The mind is a different kind of existence, a spiritual way of being.
7. The body is material and the mind is immaterial.
8. Some mental processes have no connection to brain processes.
9. The mind is not part of the brain but it affects the brain.
10. Mental states are activities of my nervous system.
11. The mind as a whole is made up of substance and material processes.
12. The mind and the brain are totally different things.
13. The activity of the mind is based on the brain, but it is also something more than just the outcome of the brain activity.
14. The mind is based on brain activity, but the mind as a whole is more than only the activity of the brain.
15. The operation of the mind is generated from the activity of the brain, but the operation of the mind is qualitatively different from the operation of the brain.

16. The mind is based on the brain, but the mind also has attributes that the chemical and physiological events of the brain do not have.
17. Although the mind is based on the brain, the mind is more than a biological process that takes place in the brain.
18. The mind is based on the activity of the brain, but one cannot perceive the attributes of the mind as such in the brain.
19. When people talk about their minds, they are really just talking about what their brain is doing.
20. The mind is a physiological state of the brain.
21. The word "mind" can be used as a shorthand term for the complicated things that my brain does.
22. Hundreds of years in the future, when we know how the brain states and thoughts are related, it might be possible for a physiologist to measure my brain states and know what I'm thinking.
23. Not much would be lost if we dropped the word "mind" from our vocabularies. For example, rather than say "I made up my mind", we might say "My brain decided" because the mind is the same as the brain.
24. For each thought that I have, there exists a certain state that my brain is.
25. When our knowledge about physiology increases, we may say "My c-fibers are sending nerve impulses", instead of "I'm pain".

Appendix B

Vignette – dualism priming condition:

Carl is a 20-year-old male and a third year college student. Lately, he has been experiencing symptoms of depression but, considering the mind is distinct from the body, this does not stop Carl from running 5 miles a day in hopes of making the track team this year.

Carl's depression feels qualitatively and substantially different from his physical body which allows him to be physically alert while his mind is not. It is therefore quite easy for Carl to distinguish between "my body" and "my self."

As Carl is walking home from his run, he waves and smiles at his classmate, Alec. Even though Carl behaves in a friendly manner, he thinks in his mind about how he actually dislikes Alec. This experience reinforces the notion that a person's mental experiences are private whereas the body occupies a public space that continuously interacts with the exterior world.

Later that day, Carl uses a computer to complete his homework assignments. In school, Carl's teacher explained that some scientists believe computers will be able to experience human emotions someday. Carl, however, does not believe this to be true because computer lacks a mind or a consciousness. In the same vein, we quite naturally acknowledge that identical twins are separate human beings who have their own individual conscious experiences, even though they are completely identical on a biological level.

Appendix C

Vignette – physicalism priming condition:

Carl is a 20-year-old male and a third year college student. Lately, he has been experiencing symptoms of depression which, considering the mind and the body are one distinct entity, has greatly prevented Carl from running 5 miles a day which he tries to do in hopes of making the track team this year.

Carl's depression feels qualitatively and substantially inseparable from his physical body, which causes his body to feel sluggish when his mind is not alert. It is therefore difficult for Carl to distinguish between "my body" and "my self." This makes sense considering we know that physical pain or a decreased blood sugar level can affect our mood, and that psychoactive drugs can rapidly change our perception and our behavior.

As Carl is walking home from his run, he waves and smiles at his classmate, Alec. Even though Carl feels sad, his mind is able to tell his body to behave politely. This experience reinforces the notion that a person's mind controls the brain and therefore the body.

Later that day, Carl uses a computer to complete his homework assignments. In school, Carl's teacher explained that some scientists believe computers will be identical to humans someday only if they are able to have a consciousness and experience human emotion. In the same vein, we quite naturally acknowledge that identical twins often share personality traits, as they are completely identical on a biological level.

Appendix D

Dualism Sentences:

- and Mind entities distinct are brain two → *Mind and brain are two distinct entities.*
- from states different Mental brain states are → *Mental states are different from brain states.*
- not machines meat are of Humans made → *Humans are not machines made of meat.*
- like we feel our bodies We occupy → *We feel like we occupy our bodies.*
- I between my myself distinguish body and → *I distinguish between my body and myself.*
- dualism proposition prevalent scientific is Mind-body the → *Mind-body dualism is the prevalent scientific proposition.*
- not states mind brain is The just → *The mind is not just brain states.*
- Mental are phenomena just not activity brain → *Mental phenomena are not just brain activity.*

Physicalism Sentences:

- Minds same the are brains things and → *Minds and brains are the same things.*
- based on brain are states states Mental → *Mental states are based on brain states.*
- are made machines meat just of Humans → *Humans are just machines made of meat.*
- physical life from body a Mental emerges → *Mental life emerges from a physical body.*
- based entirely on are neural Thoughts processes → *Thoughts are entirely based on neural processes.*
- nothing brain The but mind is states → *The mind is nothing but brain states.*

- my brain mind what does My is just → *My mind is just what my brain does.*
- brain in phenomena rooted Mental are activity → *Mental phenomena are rooted in brain activity.*

Appendix E

Attitudes Toward Seeking Professional Psychological Help Scale: a shortened form

1. Considering the time and expense involved in psychotherapy, it would have doubtful value for a person like me.
2. Emotional difficulties, like many things, tend to work out by themselves.
3. If I believed I was having a mental breakdown, my first inclination would be to get professional attention.
4. A person with an emotional problem is not likely to solve it alone; he *is* likely to solve it with professional help.
5. I would want to get psychiatric attention if I was worried or upset for a long period of time.
6. The idea of talking about problems with a psychologist strikes me as a poor way to get rid of emotional conflicts.
7. If I were experiencing a serious emotional crisis at this point in my life, I would be confident that I could find relief in psychotherapy.
8. There is something admirable in the attitude of a person who is willing to cope with his conflicts and fears *without* resorting to professional help.
9. At some future time I might want to have psychological counseling.
10. A person should work out his own problems; getting psychological counseling would be a last resort.

Appendix F

Holistic Complementary and Alternative Health Questionnaire

1. Positive thinking can help you fight off a minor illness.
2. Complementary medicine should be subject to more scientific testing before it can be accepted by conventional doctors.
3. When people are stressed it is important that they are careful about other aspects of their lifestyle (e.g. healthy eating) as their body already has enough to cope with.
4. Complementary medicine can be dangerous in that it may prevent people getting proper treatment.
5. The symptoms of an illness can be made worse by depression.
6. Complementary medicine should only be used as a last resort when conventional medicine has nothing to offer.
7. If a person experiences a series of stressful life events they are likely to become ill.
8. It is worthwhile trying complimentary medicine before going to the doctor.
9. Complementary medicine should only be used for minor ailments and not for the treatment of more serious illness.
10. It is important to find a balance between work and relaxation in order to stay healthy.
11. Complementary medicine builds up the body's own defenses, so leading to a permanent cure.