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### An international study

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## Use of complementary therapies by registered psychologists: An international study

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## Abstract

Complementary and alternative medicine (CAM) is a category of diverse medical and healthcare systems, practices, and products that are not generally considered part of conventional medicine. However, the use of CAM by lay people is increasing worldwide. This study investigated the utilization pattern of CAM amongst registered Psychologists, and level of training in delivering a CAM service. Psychologists (N=193) participated from Australia, United States, United Kingdom and New Zealand. Almost all (99.6%) respondents reported using at least one CAM service in the past, and 64.2% indicate they were trained to deliver at least one area of CAM. Users of CAM were more likely to be female. Registered psychologists from New Zealand held less positive attitudes towards CAM, less belief in the scientific validity of CAM, and less willingness to recommend CAM, in comparison to registered psychologists from other countries. Health beliefs and willingness to refer or recommend CAM significantly predicted attitudes to CAM, and gender together with attitudes towards CAM and level of training in CAM, significantly predicted attitudes towards CAM. Finally, post hoc analyses indicated that highest level of education achieved as well as attitudes towards CAM significantly contributed to level of skill achieved by practitioners. The findings from this study may be used to inform future policy that aim to encourage CAM use and training amongst registered psychologists.

Word count: 220

*Keywords:* complementary therapy, alternative medicine, psychologists, complementary medicine

Use of complementary therapies by registered psychologists: An international study

Complementary and alternative medicine (CAM) includes medical and healthcare systems, practices, and products that are not generally considered part of conventional medicine (Briggs, 2007). The Cochrane collaboration has created an operational definition for CAM therapies to assist with the classification of Cochrane reviews as a CAM or non-CAM therapy. The 70 CAM approaches included in this definition are available at <http://www.compmed.umm.edu/cochrane/CAM.asp>. CAM is becoming increasingly prevalent because it is used not only for disease treatment, but also for disease prevention and health promotion. In 2007, American adults made 354 million visits to CAM practitioners and it has become a \$42 billion dollar industry (Briggs, 2007). The use of CAM amongst the general population in Australia is also widespread (~70%) and, as such, has the potential to impact health-care decisions (Xue, Zhang, Lin, Da Costa, & Story, 2007).

Traditionally, general practitioners have been investigated as to their CAM use and comfortableness with referral (Ernst & White, 2000; Vlieger, van Vliet, & Jong, 2011). Even less have examined psychologists in particular, and it is important to recognize that some psychologists may already be integrating many forms of CAM into their practice (e.g. biofeedback, hypnosis, or relaxation) without realising they are part of this growing field holistic medicine (Barnett & Shale, 2012). In the United States, Bassman and Uellendahl (2003) mailed surveys to 1,000 members of the American Psychological Association, to assess for CAM-related knowledge, attitudes, practice, and patterns of referral. Although the response rate was significantly low (N=202), the results obtained revealed that most psychologists within this sample held favourable opinions of the potential legitimacy of alternative modalities, and believed that CAM could aid in psychotherapeutic treatment.

Most recently, a 2013 study of Australian psychologists' (N=122) intentions to integrate complementary and alternative therapies (CAT) into their practice via recommending CAT to clients or referring clients to CAT practitioners indicated they were generally positive. Of the sample, 69% said they would recommend CAT to clients and 51% were referring to CAT practitioners (Wilson, White, & Obst 2011). However, the focus of psychology has been grounded historically in the scientific/medical model, and it would not be surprising if psychologists were hesitant to embrace alternative therapies that have relatively little empirical evidence to support their use.

Traditionally, registered psychologists may not have been encouraged to recommend or use CAM as part of their practice because it is typically outside of the definition of psychological practice. There may be boundary issues associated with dual qualifications, and indemnity insurances would need to cover both practices. Psychologists' hesitation to embrace CAM for these reasons was evidenced in a 2011 study of Australian psychologists' and psychology students' (N=12) beliefs regarding the integration of CAT into clinical practice or undertaking training to utilise CAM (Wilson & White, 2011). Participants specified a number of perceived risks associated with CAM usage, including dangerous side effects, unclear ethical integration, and the questionable efficacy and relative safety of some individual therapies.

A number of explanations have been proposed for the shift between orthodox treatment and integration of CAM into clinical practice. Researchers involved in examining the potential gain in popularity of using CAM have suggested that psychologists may be implementing CAM due to dissatisfaction with orthodox treatment in addition to the emergence of a new set of health beliefs and post-modern values within society (Furnham & Kirkcaldy, 1996; Sugimoto & Furnham, 1999). Post-modern values are defined as a new set

of health beliefs and values in society, which generally reflect a sense of alienation from medical structures and authorities that have typically governed decision-making in the area of health (Coward, 1989; O'Callaghan & Jordan, 2003).

In a 2003 study of 161 adults' attitudes and use of CAM demonstrated that post-modern values regarding CAM were associated with more positive attitudes towards CAM, and actual use of CAM (O'Callaghan & Jordan, 2003). Moreover, the authors posited that the increasing technological focus of orthodox medicine (e.g. medical devices for assessment) and treatment may reduce the extent to which patients have a sense of ongoing care and perception of increased control of their illness, which ultimately results in increased use of CAM. It is important to note that this sample incorporated non-practicing students, and does not reflect the association between values and attitudes or CAM usage for registered psychologists. Additionally, previous studies investigating these beliefs and values as predictors of CAM usage may be limited by the narrowed variety of CAM methods included in their studies. As such, the current study attempts to overcome this limitation of previous research by investigating the link between beliefs, attitudes, and use of CAM among registered psychologists, specifically, and by incorporating a wider range of therapies.

It is important to consider societal differences in attitudes towards CAM and usage of CAM. Studies of American, Canadian, and Australian CAM users have found that age and gender were predictive of CAM usage, where users were likely to be younger and female (Astin, 1998; Eisenberg et al., 1993; Kelner & Wellman, 1997; MacLennan, Wilson, & Taylor, 1996). In particular, research has demonstrated that younger people hold more positive attitudes towards CAM and perceive CAM as less risky (MacLennan, Myers, & Taylor, 2006). However, other research on British samples has shown that demographic variables such as age are not powerful predictors of attitudes, beliefs, and behaviours related

to CAM (Vincent & Furnham, 1996). Few studies have compared use of CAM by professionals among countries, and to date none appear to have surveyed psychologists from New Zealand. Because general psychology qualifications from Australia, New Zealand, the United States and United Kingdom typically transfer readily, the present study sought to investigate these four countries.

The purpose of this study was to investigate use, referral practice and qualifications in CAM amongst registered psychologists from of the four listed countries, using an exploratory online survey. As well as comparing psychologists' current use of CAM, skill level in delivering and attitudes towards using CAM, the study sought to investigate whether country, age, education level or gender accounted for more variance in attitude and use.

### **Method**

Ethical approval was granted by the Bond University Human Research Ethics Committee. Registered psychologists over the age of 18 years were recruited through notices posted on online psychology and general noticeboards (e.g., Facebook page relating to psychologists). Additionally, registered members of psychological societies and associations (i.e., the Australian Psychological Society, American Psychological Association, and British Psychological Society) were contacted via email through these organisations. Although 382 participants were initially recruited, the final sample consisted 193 cases, after the exclusion of criteria and statistical violations. It is important to note that psychologists self-reported being registered in their relevant country.

### **Participants**

The sociodemographic characteristics of participants are presented in Table 1. The majority of psychologists were female (76%), over the age of 50 (46%), from Australia (47%), and had completed a Master's degree (41%). An independent samples t-test was



conducted to compare baseline sociodemographic characteristics among the countries surveyed. Although there were no significant differences among the countries surveyed in terms of gender or age, there were statistically significant differences among countries for highest level of education. Psychologists from the United States of America exhibited significantly higher levels of education than Australian psychologists ( $p = .002$ ), and psychologists from the United Kingdom ( $p = .003$ ). New Zealand psychologists demonstrated significantly higher levels of education than Australian psychologists ( $p = .013$ ), and psychologists from the United Kingdom ( $p = .013$ ).

It is important to note here that level of education may not have related to level of training as needed for registration purposes. For example, in Australia qualifications that lead to general registration vary and can include: a) a six year accredited sequence of study; b) a five year accredited sequence of study followed by a one year Board approved internship; c) a four year accredited sequence of study followed by a two year Board approved internship; or, d) a qualification that in the Psychology Board's opinion is substantially equivalent to either (a), (b) or (c).

For the purposes of data analysis, participants' level of training or skill was coded by using content analysis to generate meaningful categories. More specifically, participants' qualifications for each CAM approach were appropriately categorised using a coding system ranging from 1 to 7, depending on the duration of study required for each approach. Examples of categories used for individual approaches included single-day workshop, diploma, and Master's degree (e.g., six or more years of university study).

Insert Table 1

## Measures

Prior to beginning the anonymous online survey, participants completed a demographic questionnaire (including age, sex, marital status, residence, education level, profession, personal use of CAM, highest qualification in a CAM therapy, and monthly income). The operational definition of CAM provided to participants was based on The National Institutes of Health (NIH) National Center for Complementary and Alternative Medicine, who has defined CAM as *those healthcare and medical practices that are currently not part of conventional medicine* (NIH, 2002). Table 2 outlines the CAM approaches included in the present study; although this list represented a small selection from the original Cochrane list, the participants were also given the opportunity to indicate any therapies outside of this inventory.

Insert Table 2

The validated CAM Health Belief Questionnaire was included to survey the attitudes of psychologists towards complementary and alternative medicines. The CAM Health Belief Questionnaire (CHBQ) is a 10-item, multi-dimensional questionnaire which uses items on a seven-point Likert-type rating scale format where 1 = "*Absolutely Disagree*," and 7 = "*Absolutely Agree*" (Lie & Boker, 2004). An example item includes "The physical and mental health are maintained by an underlying energy or vital force". Total attitude scores were calculated by summing across all items, after reverse coding three items that are negatively worded to minimise acquiescence response set. Higher scores on this measure reflect more positive or favourable attitudes towards CAM. The CHBQ has been found to be a valid and psychometrically sound instrument for attitudes towards CAM among health professionals, with sound internal consistency (Cronbach's alpha = .75; Lie & Boker, 2004) and adequate convergent validity (Lie & Boker, 2006).

The Psychologist Attitudes Towards Complementary and Alternative Therapies (PATCAT) scale is an 11 item, multi-dimensional scale designed to measure psychologists' attitudes towards complementary and alternative therapies including knowledge about therapies, attitudes towards integration, and concerns about associated risks. Response options are presented on a seven-point Likert-type rating scale ranging from 1 = "Strongly disagree" to 7 = "Strongly agree". A sample item is "Psychology professionals should be able to advise their clients about commonly used complementary therapy methods". Higher scores on this measure represent more endorsed items and thus more positive or favourable attitudes towards CAM. Previous studies have revealed that the PATCAT features excellent internal consistency (Cronbach's alpha = .89) and convergent validity (Wilson & White, 2007; Wilson, White, & Obst, 2011).

Finally, behavioural beliefs relating to intention and willingness to integrate CAM into clinical practice were assessed through four items. Based on the theory of planned behaviour (Ajzen, 1991), these items were developed by Wilson and White (2007) in a pilot study of practicing psychologists and psychology students. Participants were asked to rate how likely specific outcomes, such as "Not being able to follow up client progress with CAM", would be if they integrated CAM into their future psychological practice. Responses are indicated on a 7-point Likert-type scale ranging from 1 = *Extremely unlikely* to 7 = *Extremely likely*. Total scores were calculated by summing across the four items, after reverse coding two items that are negatively worded. Higher total scores reflect stronger beliefs in CAM as being advantageous or beneficial. Previous studies have found these four items to be valid and psychometrically sound in measuring behavioural beliefs relating to CAM (Wilson & White, 2007; Wilson & White, 2008; Wilson, Hamilton, & White, 2012).

## Results

Data was analysed using SPSS-19 (Corp, 2010). Individuals with missing data at any time point were excluded on an analysis by analysis basis. Prior to analyses, the data was screened and assumptions were met. Bivariate correlations and reliability coefficients for the sociodemographic and CAM variables in this study were obtained. One-way ANOVA tests were conducted to assess differences in CAM variables among the countries surveyed. Finally, hierarchical multiple regression analyses were performed to examine which variables were significant predictors of attitudes to CAM, use of CAM, and level of skill achieved by practitioners.

The correlations between all of the variables included in the analyses demonstrated low to moderate relationships (see Table 3). Interestingly, 99.6% of respondents reported using at least one complementary therapy in the past, with 64.20% of respondents having received some level of more formalised training in at least one therapy. Users of CAM were more likely to be female,  $t(191) = 3.17, p = .001$ .

Insert Table 3

A one-way ANOVA was used to test for differences in willingness to refer, total use of CAM, level of training, attitudes, and beliefs among the countries of participants completing the survey. Willingness to refer differed significantly across the countries,  $F(4, 166) = 3.17, p = .015$ . Total use of CAM did not differ significantly across the countries,  $p = .109$ . Level of training did not differ significantly across the countries,  $p = .323$ . Attitudes towards use of CAM differed significantly across the countries,  $F(4, 166) = 3.83, p = .005$ . Finally, beliefs differed significantly across the countries,  $F(4, 166) = 3.27, p = .013$ .

Post hoc pairwise comparisons were conducted to compare the effect of variables across countries. In terms of willingness to refer, post-hoc analyses revealed that New Zealand psychologists were less willing to refer or recommend CAM than Australian

psychologists ( $p = .041$ ) and psychologists from the United States ( $p = .002$ ). In terms of attitudes, New Zealand psychologists demonstrated less positive attitudes towards CAM than psychologists from the United States ( $p < .001$ ) and Australia ( $p = .013$ ). Finally, New Zealand psychologists reported significantly less belief in the scientific validity of complementary and alternative medicine than psychologists from the United States ( $p = .002$ ) and Australia ( $p = .021$ ).

### **Predictors of Attitudes to CAM**

A hierarchical multiple regression was performed with the demographic, health belief, and willingness variables being used to predict attitudes to CAM. Age, country, level of education achieved, current employment status, and current type of employment were controlled by entering them on the first step of the regression. Gender was entered on the second step, while belief and willingness variables were entered on the third and fourth steps, respectively. The dependent variable was overall attitudes to CAM.

At Step 1, the regression produced a non-significant equation,  $F(5, 165) = 0.81, p = .545$ , that explained 2.40% of the variance (see Table 4). Gender was entered on the second step and this resulted in a significant increase in explained variance ( $R^2\text{change} = 0.05, p = .005$ ). Beliefs was entered on the third step and this resulted in a significant increase in explained variance ( $R^2\text{change} = 0.68, p < .001$ ). The final equation was significant,  $F(8, 162) = 82.19, p < .001$ , and 80.20% of the variance in attitudes to CAM was explained. Significant  $\beta$  coefficients were obtained for beliefs and willingness variables. In sum, beliefs about integration of CAM into clinical practice and willingness to refer or recommend CAM significantly predicted attitudes towards CAM.

Insert Table 4

### **Predictors of CAM Use**

A hierarchical multiple regression was performed with the demographic, attitude, willingness, and level of training being used to predict use of CAM. Age, country, level of education achieved, current employment status, and current type of employment were controlled by entering them on the first step of the regression. Gender was entered on the second step, while attitude and willingness, and level of training variables were entered on the third and fourth steps, respectively. The dependent variable was overall CAM use.

At Step 1, the regression produced a non-significant equation,  $F(5, 165) = 0.80, p = 0.548$ , that explained 2.40% of the variance (see Table 5). Gender was entered on the second step and this resulted in a significant increase in explained variance ( $R^2\text{change} = 0.08, p < 0.001$ ). Attitudes towards CAM and willingness to refer or recommend CAM were entered on the third step and this resulted in a significant increase in explained variance ( $R^2\text{change} = 0.26, p < 0.001$ ). It is important to note that regression analyses performed with attitude and willingness variables entered separately on the third step produced similar results to analyses with attitudes and willingness entered together, attitudes explained an additional 25.60% of variance in total CAM use when entered separately on the third step ( $p < 0.001$ ), while willingness explained an additional 19.10% of variance when entered separately on the third step ( $p < 0.001$ ).

The final equation was significant,  $F(9, 161) = 14.01, p < 0.001$ , and 43.90% of the variance in CAM use was explained. Significant  $\beta$  coefficients were obtained for gender, attitudes towards CAM, and level of training. In sum, gender together with attitudes and level of training significantly predicted overall CAM use.

Insert Table 5

Further analyses were conducted to examine the extent to which beliefs about CAM, attitudes towards CAM, and willingness to refer or recommend CAM contributed to the level

of training completed by practitioners. A hierarchical multiple regression was performed with the demographic, belief, attitude, and willingness variables being used to predict level of training. Age, gender, country, level of education, current employment status, and current type of employment were controlled by entering them on the first step of the regression. Belief, attitude, and willingness variables were entered on the second step. The dependent variable was level of training.

At Step 1, the regression produced a non-significant equation,  $F(6, 164) = 1.78, p = 0.106$ , that explained 24.70% of the variance (see Table 6). Beliefs about CAM, attitudes towards CAM, and willingness to refer or recommend CAM were entered on the second step; this resulted in a significant increase in explained variance ( $R^2$ change = 0.14,  $p < 0.001$ ). The final equation was significant,  $F(9, 161) = 4.41, p < 0.001$ , and 44.50% of the variance in level of training was explained. Significant  $\beta$  coefficients were obtained for highest level of education and attitudes towards CAM, which indicates that education and attitudes significantly contribute to level of skill or training completed by practitioners.

Insert Table 6

### **Discussion**

Given the high use of CAM across general populations, it is important that psychologists are informed about published evidence supporting the different therapies, the possible risks and the relevant qualifications and licensing procedures for practitioners administering such therapies. This study has highlighted a number of important findings in relation to the use, referral practice, and qualifications in CAM amongst internationally registered psychologists. Taken together, the results confirmed that registered psychologists in these four countries have received at least some training for CAM, and are integrating CAM into their clinical practice.

Results indicated that individuals who were female held more positive attitudes towards CAM, and reported greater use of CAM. This is consistent with previous reports of gender differences in attitudes towards and use of CAM (MacLennan, et al., 2006; MacLennan, et al., 1996). However, age did not significantly predict attitudes towards CAM or CAM usage in the current study, which is largely inconsistent with research that has demonstrated that younger people held more positive attitudes towards CAM and perceive CAM as less risky (MacLennan, et al., 2006). The sample size in this study may have resulted in this outcome and not be representative of the views of wider profession.

Results demonstrated significant differences among the countries surveyed, in terms of willingness to refer, beliefs about CAM, and attitudes towards CAM. Registered psychologists from New Zealand reported significantly less positive attitudes towards CAM, were less willing to integrate CAM into their practice, and had less belief in the scientific validity of CAM, compared to psychologists to other countries. Given the paucity of studies investigating New Zealand psychologists, it is perhaps useful to consider the use and acceptance of CAM by general practitioners (GPs).

In New Zealand, the number of GPs practising CAM therapies has decreased over the past 15 years, although the number referring patients to CAM has increased (Poynton, Dowell, Dew, & Egan, 2006). Studies have shown that only 25% of New Zealand adults visited a CAM practitioner during the previous 12 months (Ministry of Health, 2004). In countries such as Australia two in every three Australian adults are estimated to use at least one CAM product (McLucas, 2008) and 70% have used a service in the previous year (Xue, Zhang, Lin, Costa & Story, 2007); in America 38 percent of adults use some form of CAM each year (Barnes, Bloom, & Nahin, 2008). Provision of most CAM health care occurs outside the publicly funded health system in New Zealand, and outside a specific legislative



framework and this may be resulting in a risk-based approach for professionals such as GPs and psychologists and be reflected in the more conservative approach and attitude in the present study's results.

Among all participants, stronger beliefs regarding the scientific validity of CAM and greater willingness to refer or recommend CAM predicted positive attitudes towards CAM. More positive attitudes towards CAM, higher level of skill or training in CAM, and being female predicted greater usage of CAM. The finding that more positive attitudes towards CAM contributed to higher CAM use is consistent with previous studies based on the Theory of Planned Behaviour, in that attitude is predictive of actual behaviour (Wilson, White, & Hamilton, 2013). Finally, results demonstrated that higher levels of education in addition to more positive attitudes towards CAM predicted level of skill or training in CAM achieved by practitioners.

This study has a number of strengths including being the first to investigate differences in CAM usage and beliefs about and attitudes towards CAM among an international sample with similar registration requirements. However, there are a number of limitations that must be noted. Firstly, the method employed for coding CAM users' level of training or skill (i.e., content analysis) may have implications for the accuracy of the ranking system devised, as the levels of skill within each therapy vary significantly. Secondly, there was an uneven representation of females and males in the current study, as approximately 76% of psychologists surveyed were female. This may imply that findings are more reflective of the nature of female psychologists' use of CAM worldwide. Since previous studies have demonstrated differences in CAM usage for males and females (MacLennan, et al., 1996), this may have implications for the current study in that male psychologists' perception and

use of CAM may be underrepresented. Finally, the self-reported demographic information meant that there were no checks included to confirm registration status.

Overall, this study has highlighted that higher levels of education are linked to a greater willingness to refer or recommend CAM, and more positive attitudes towards CAM. Because stronger beliefs regarding the scientific validity of CAM were also linked to the same, it raises the question of including such information in psychological training. Providing students with knowledge of these therapies (e.g. within Health Psychology courses), including evidence-based studies of their effectiveness in treating psychological conditions may be necessary.

The ethical and legal implications for a psychologist in recommending the use of CAM or administering such therapies if they are beneficial as an adjunct to psychological work would need to be addressed within the health regulatory systems. Indemnity insurance issues for psychologists delivering two or more services would require resolution, and to ensure that there are consistent and high standards of service delivery amongst psychologists, statutory regulation bodies would be recommended for the use of CAM by professions such as psychology. Despite these reservations, international research shows that the popularity of CAM amongst the general population seems to be increasing, and consumer pressure is considered to be the major driving force behind this growth. This upsurge in popularity and level of CAM use may become a future major influence on psychologists to refer or be skilled in CAM therapies.

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