Running head: psychologists' intentions to integrate CAT

Predicting psychologists' intentions to integrate complementary and alternative therapies into
their practice

Key words: integrating complementary therapy, psychology practice, psychologists, Theory
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Abstract

Drawing on an extended Theory of Planned Behaviour (TPB) framework, we employed a cross-sectional designed study to investigate psychologists' intentions to integrate complementary and alternative therapies (CAT) into their practice via recommending CAT to clients or referring clients to CAT practitioners. Participants were registered practicing psychologists from a range of therapeutic orientations (e.g., narrative, cognitive behavioural, psychodynamic). The psychologists were either recruited by phone, following a search of the internet, or were contacted through their place of employment (hospitals, university counselling service). Those who agreed to participate ($N = 122$; $n = 88$ females, $n = 34$ males) completed a questionnaire which included standard TPB items of attitude, subjective norms, and perceived behavioural control, along with items measuring perceived risk, past behaviour, CAT knowledge, and gender. The outcome variables of interest were (1) intention to recommend CAT to clients and (2) intention to refer clients to CAT practitioners. Structural equation modelling revealed that the extended model was a good fit, explaining 69% (recommending CAT) and 51% (referring to CAT practitioners) of the variance in intentions. For both behaviours, direct paths from attitude and subjective norms to intentions were observed, with perceived risk and past behaviour influencing the TPB predictors of attitudes, subjective norms, and perceived behavioural control. The findings illustrate the role cognitive and risk factors have on psychologists' decisions to integrate CAT into their practice. Understanding psychologists' cognitions and decisions about CAT integration forms an important basis on which to consider future changes in policy or practice.

Like in other westernised countries, the use of complementary and alternative therapies (CAT) in Australia has risen steadily over the past 10 to 15 years (Komesaroff, 1998; MacLennan, Myers, & Taylor, 2006) and this rise has impacted on both general medical care and mental health services (Australian Bureau of Statistics, 2005). For example, many clients of General Practitioners are seeking the advice of naturopaths or herbalists and many depressed or anxious individuals are combining yoga, meditation, or herbal supplements, with traditional psychotherapy (Page, Jones, & Wilson, 2004; Saeed, Bloch, Antonacci, Davis III, & Manuel, 2009). As many as 69% of Australians use CAT (Xue, Zhang, Lin, Da Costa, & Story, 2007) and it has been reported that at least 55% of males and 57% of females who turn to medicines, use vitamins, minerals, and herbal treatments to relieve their mental distress (Australian Bureau of Statistics, 2005). Further evidence suggests that people are much more likely to use CAT for the management of anxiety and depression, the two most commonly reported psychological disorders, than they are to seek psychological services (Australian Bureau of Statistics, 2005). Given this evidence, then, it would seem beneficial that when individuals do seek the advice of a qualified psychologist, that the mental health provider is able to respond in an informed manner to client queries about CAT. More importantly, given the high incidence of CAT usage for the treatment of psychological disorders, it would be useful to understand the various factors that influence psychologists' decision-making regarding integrating CAT into their practices. However, while significant research has been conducted exploring attitudes to CAT among medical professionals (Halcon, Chlan, Kreitzer, & Leonard, 2003; Hyland, Lewith, & Westoby, 2003; Joos, Mussellmann, & Szecsenyi, 2011; Lewith, 2002), there is an absence of similar investigations within the field of psychology.

There are a number of CAT that have found an increased level of acceptance among the medical community (M. M. Cohen, Penman, Pirota, & Da Costa, 2005; Pirota, Cohen, Kotsirilos, & Farish, 2000) and, while many have little or no empirical evidence to support their usage, some do have a growing body of favourable scientific evidence (see National

Centre for Complementary and Alternative Medicine, 2007). In such cases of scientific support for CAT, traditional psychotherapy could be augmented successfully by CAT, such as a client with a social anxiety disorder attending a yoga class once a week in addition to attending their regular therapy sessions. The yoga class would serve the dual purpose of exposing the client to social situations while also relaxing them (Brown & Gerbarg, 2005); however, where evidence in relation to efficacy is scarce, caution should be exercised. Regardless of how psychologists might choose to approach CAT, the increasing popularity of complementary and alternative approaches in health care and, in particular, mental health care means that many individuals are combining treatment options and are looking for knowledge and guidance regarding treatment options (Frenkel & Borkan, 2003). For this reason, it is important to have an understanding of the perceptions underlying psychologists' decisions regarding CAT integration.

According to the National Centre for Complementary and Alternative Medicines (2006):

CAM (or CAT) is a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine. ...

While some scientific evidence exists regarding some CAM therapies, for most there are key questions that are yet to be answered through well-designed scientific studies--questions such as whether these therapies are safe and whether they work for the diseases or medical conditions for which they are used (Defining CAM, para.1).

In Australia, naturopathy, acupuncture, traditional Chinese medicine, aromatherapy, homeopathy, iridology, and kinesiology are all considered complementary therapies (Australian Bureau of Statistics, 2005). The terms *complementary and alternative medicine* (CAM) and *complementary and alternative therapy* (CAT) have been used interchangeably within the research literature (Bassman & Uellendahl, 2003; Kruszkowski, Malti, & Modestin, 2003). However, 'medicine' most often refers to treating, alleviating or preventing

disease, while ‘therapy’ tends to relate to treatment alone (M. H. Cohen, Hrbek, Davis, Schachter, & Eisenberg, 2005; Kruszkowski, et al., 2003).

Current research, although somewhat limited, suggests that psychologists are integrating CAT into psychological practice via recommending CAT to clients, offering clients referrals to CAT practitioners, or accessing training in CAT therapies to integrate these therapies into practice, with the evidence suggesting also that psychologists are recommending CAT generally at relatively high rates and at significantly higher rates than they are offering specific referrals to CAT practitioners (Bassman & Uellendahl, 2003; Davis, 2005). CAT integration, however, is not without its challenges and these have been highlighted by the experiences among General Practitioners. With increased patient use of CAT and increased integration has come a greater demand on General Practitioners’ time and resources, as well as an increase in litigation (M. H. Cohen & Eisenberg, 2002). A review by Hirschhorn and Bouregault (2005) proposed a conceptual framework for interpreting health care providers’ behaviours in relation to CAT integration. They found that practitioners’ decisions to integrate are influenced by various multi-level factors, including individual attitudes and experience, type of practice and views of colleagues, potential risks (e.g., litigation and client health), and needs of clients.

However, little is known about how psychology, as a discipline, is responding to these changes. Within Australia, guidelines for psychological practice are governed by the Australian Psychological Society (2007). These guidelines are general, can be open to interpretation, and do not directly address CAT. There is, however, an active interest group within the Australian Psychological Society, ‘Psychology and Complementary and Alternative Medicine’ (PsyCAM), whose stated goal is to promote collaboration between psychologists and CAT providers (Durbock, 2007). Overall, given the increasing use of CAT for mental health disorders, having a deeper understanding of the factors which influence psychologists’ choices about integrating CAT can be used to inform both clinical practice

policy and educational initiatives. This framework should be informed by grounded research (e.g., asking psychologists about their experience) as well as by utilising established theoretical frameworks that reflect people's decision-making processes. The Theory of Planned Behaviour (TPB; Ajzen, 1991) is an established theory which has been often applied to understanding people's decision making. The TPB considers the impact of both individual and social factors on people's actions, both of which have also previously been identified as important in the CAT integration literature (Hirschhorn & Bourgeault, 2005).

The Theory of Planned Behaviour

The TPB proposes that intention to perform a given behaviour is the most proximal determinant of behavioural outcomes. Intention, in turn, is predicted by three constructs: attitudes, subjective norms, and perceived behavioural control (Ajzen, 1991). Attitudes are the positive or negative evaluations held by an individual about performing a particular behaviour. Subjective norms refer to the perceived pressure from important others to perform or not to perform an action. Perceived behavioural control, which is similar to the concept of self-efficacy, refers to one's perceived ease of performing a given behaviour and is also proposed to influence behaviour directly. The constructs of attitudes, subjective norms, and perceived behavioural control are thought to be belief-based. Support for the TPB has been found for a wide range of behaviours, including those examining the use of CAT behaviours in general (Furnham & Lovett, 2001; Pawlak et al., 2008) and CAT intentions among medical professionals (Godin, Beaulieu, Touchette, Lambert, & Dodin, 2007). A meta-analytic study which examined the efficacy of the TPB applied to a wide range of social and health behaviours (Armitage & Conner, 2001) found that the model accounted for an average of 39% of the variance in people's intentions and 27% of the variance in people's behaviour. Despite the strong support demonstrated for the TPB in predicting intentions and behaviour, a large proportion of the variance remains unexplained leading researchers to propose the addition of other variables to improve the predictive ability of the TPB.

Additional Constructs in Understanding CAT Integration

Variables such as gender, knowledge about CAT, and risk of liability were all factors identified by Hirschorn and Bouregeault (2005) as predictors of health professionals' CAT integration behaviours. Females are consistently more likely to be accepting of CAT and to employ CAT for their own use (Hirschorn & Bouregeault, 2005; Thomas, Fall, Parry & Nicholl, 1995). Similarly, past CAT behaviour is important as practitioners are likely to be influenced in their recommending and referral behaviour by their previous experience with CAT. For example, in one United Kingdom study, General Practitioners who were known to be open to the use of complementary therapies were more likely to be approached by patients for recommendations and referrals (Thomas et al., 1995). It should be noted that past behaviour is often included as an additional predictor within the TPB. Furthermore, knowledge has also been identified in the literature (Comas-Diaz, 2006; MacLennan, et al., 2006) as an important contributor to intention to integrate CAT. Thus, demographic and information factors (in particular, past CAT behaviour, knowledge of CAT, and gender) are known predictors of CAT integration behaviour and, if included within a TPB framework, may improve prediction of psychologists' intentions to integrate CAT into their practice. However, from a theoretical perspective, demographic and information factors are suggested to be of little value when trying to understand behavioural determinants (Ajzen, 1991) as one can do very little to change prior behaviour and knowledge (or gender). Risk cognitions, however, are useful to examine as they can be targeted for encouraging behaviour change, although this concept is less well understood in relation to CAT behaviour.

There are a number of risks associated with CAT usage and its integration into psychological care. One serious risk is possible dangerous side effects. For example, St John's Wort is an effective treatment for depression and, while it has few side effects on its own, it has been shown to interact with a number of medications, in particular with antidepressant medication (see Jorm, Christensen, Griffiths, & Rodgers, 2002). More specifically, once an

individual stops taking St John's Wort, blood levels of interacting medicines can rise and produce an unanticipated toxic effect (Therapeutic Goods Administration, 2011). Another potential risk involves the question of what constitutes ethical integration. While the complexities of CAT integration are not specifically addressed by the ethics statement of the Australian Psychological Society, it is, nevertheless, expected that psychologists will act in the best interests of their clients (Australian Psychological Society, 2007). Kerridge and McPhee (2004) noted that Australian medical practitioners have a legal responsibility to discuss appropriate CAT with their clients, whether their clients initiate the discourse or not. Bassman and Uellendahl (2003) suggest that it may be the practitioner's ethical responsibility to be aware of alternative therapies and to be prepared to discuss them with clients.

Bassman and Uellendahl (2003) noted that, because of the lack of guidelines, American psychologists are recommending various holistic healing modalities, but are not offering referrals to specific practitioners, potentially placing clients at risk from unqualified CAT therapists. Also of concern is the fact that the majority of Australians surveyed by MacLennan et al. (2006; 2002) expressed the belief that some or all alternative therapies are safe when, in fact, both the efficacy and the relative safety of many individual therapies remain in question. Thus, it would appear that psychologists face the ethical, and perhaps legal, responsibility to advise clients appropriately about CAT, but to do so without adequate training or resources. Despite these concerns, very few practitioners, medical or psychological, have been challenged successfully in court in relation to their approach to CAT (Kerridge & McPhee, 2004).

The processes through which risk might influence decision-making, however, are not clearly understood in relation to CAT integration. The TPB postulates that the influence of variables such as perceived risk on behaviour are mediated wholly by the traditional TPB variables (Ajzen, 2006; Ulleberg & Rundmo, 2003). Ulleberg and Rundmo used Structural Equation Modelling (SEM) and demonstrated that risk perception influences risky driving

behaviour, but only indirectly through attitudes. Furthermore, perceived risk has been frequently conceptualised as a dimension of attitude, contributing to TPB behavioural beliefs (Weber & Milliman, 1997). However, where risk has been defined in terms of outcomes to be avoided, support for a direct influence on behaviour is often observed (Boer & Seydel, 1996; Rosenstock, 1974). In addition, research incorporating risk within other socio-cognitive models (e.g., the Health Action Process Approach, Prototype/Willingness Model, Health Belief Model) have evidenced direct influences of risk on intentions and behaviour (see e.g., Conner, Warren, Close, & Sparks, 1999; McMath & Prentice-Dunn, 2005; Ravis, Sheeran, & Armitage, 2006). Thus, there appears some uncertainty surrounding the role of risk perceptions on people's decision making in that perceived risk may exert its influence on the TPB social-cognitive predictors (i.e., attitude, subjective norm, perceived behavioural control) or directly on people's intentions.

The Current Study

In the current study, we used the TPB as a theoretical framework and extended the model to specifically examine the role of risk perceptions, along with gender, knowledge, and past behaviour, to gain a better understanding of the processes that guide psychologists' decisions to integrate CAT into their practice. In particular, we examined these cognitive and social influences informing the two integration behaviours related to CAT integration: offering general recommendations for CAT (i.e., recommending CAT) and offering referrals, written or verbal, to specific complementary or alternative practitioners (i.e., referring CAT). From a TPB perspective, it was expected that, for each behaviour of recommending and referring CAT, attitude, subjective norm, and perceived behavioural control would predict intentions (H1). Furthermore, it was expected that past behaviour of recommending CAT to clients and referring clients to CAT practitioners would have a direct influence on the TPB predictors and intentions (H2). In addition, in an exploratory manner, we tested the influence of perceived risk on the TPB predictors of attitude, subjective norm, and perceived

behavioural control and intention (H3). Likewise, in an exploratory manner, we investigated the influence of knowledge and gender on psychologists' CAT integration decision-making (H4).

Methods

The research was carried out in South East Queensland, Australia. The study was approved ethical clearance by the University Human Research Ethics Committee (reference number 0600000885).

Participants

Only registered practicing psychologists were eligible to participate in the study. Surveys were distributed to approximately 250 practicing psychologists in Queensland, Australia. Psychologists who provided contact details were entered into a draw for one of three \$50 department store gift vouchers.

Design and Procedure

A cross sectional design was employed with data collected over a 2-month period. Standard TPB items for assessing attitude, subjective norms, and perceived behavioural control were utilised (Ajzen, 1991). The survey consisted of demographic and background questions and two sections of identical sets of questions related to the two different integration behaviours: offering general recommendations for complementary or alternative therapies (i.e., *recommending CAT*) and offering referrals, written or verbal, to specific complementary or alternative practitioners (i.e., *referring CAT*). Descriptions of the behaviours were provided along with an example given of recommending CAT to clients (e.g., "suggesting to a client that they could try complementary or alternative therapies (e.g., acupuncture), without providing any referrals to specific CAT practitioners") and referring clients to CAT practitioners (e.g., "suggesting to a client that they could try complementary or alternative therapies by providing referrals to specific CAT practitioners, such as a know

acupuncturist”). The surveys were counterbalanced to overcome any order effects of the two target behaviours and no mean differences among the variables were observed due to the order of presentation.

To obtain the sample of psychologists, two procedures were employed. In the majority of cases, psychologists were contacted individually by phone and asked if they would be willing to participate in the research. Phone numbers were obtained via a search of the internet. The internet search was employed in order to obtain a comprehensive selection of potential participants irrespective of type and location of employment. A list of all known registered practicing psychologists in Queensland was generated and approximately 312 were contacted. Psychologists were informed that we were interested in all perspectives and were seeking participants irrespective of whether people supported the use of CAT. The majority of psychologists contacted agreed to participate. The second recruitment method, which was based on a convenience sampling method, involved obtaining permission to distribute surveys through organisations such as hospitals or university counselling services. Approximately one third of participants were recruited in this way. Sample size was based on the response from potential participants in a 2 month time frame due to deadline requirements of the research program and provided an adequate sample for the type of analysis (i.e. SEM) employed.. The surveys, an introductory letter, an informed consent/information sheet, and a reply paid envelope were posted to psychologists who indicated their willingness to participate in the study.

Measures

Theory of Planned Behaviour Variables

Standard measures of the TPB were employed with the principle of compatibility being observed (see Ajzen, 1991). The majority of the items were positively worded, with the exception of a few negatively worded items (later reversed scored) to reduce participant response bias. The target behaviours were recommending CAT and referring CAT with CAT

being operationalised as: “A group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine”. This definition is consistent with United States National Centre for Complementary and Alternative Medicines (National Centre for Complementary and Alternative Medicine, 2006).

Intention. Intention to either recommend CAT or refer CAT was assessed through a single seven-point item. For example, for the behaviour of referring to CAT, this item asked participants to select whether they *intend* [1] or *do not intend* [7] to integrate CAT into their psychological practice by offering referrals, written or verbal, to specific complementary or alternative practitioners.

Attitude. Attitude toward recommending CAT or referring CAT was assessed by three, seven-point semantic differential scales (e.g., *negative* [1] to *positive* [7]), with the second item reversed. The measure of attitude was reliable for both behaviours with alpha coefficients of .94 and .95, respectively.

Subjective norm. Subjective norm was assessed by two items, for each behaviour, in which participants were asked how much they agreed with the presented statements (*strongly disagree* [1] to *strongly agree* [7]). An example statement is “Those people who are important to me would want me to integrate CAT into my psychological practice by...”. The measure of subjective norm for recommending CAT and referring CAT were moderately reliable with Pearson’s correlation coefficients of $r(119) = .78, p < .001$ and $r(120) = .71, p < .001$, respectively.

Perceived behavioural control. Perceived behavioural control was measured by one item, for each behaviour, in which participants were asked how much they agreed with the statement “I have complete control over whether I integrate CAT into my psychological practice by...” (*strongly disagree* [1] to *strongly agree* [7]).

Additional Variables

Perceived risk. Perceived risk was assessed with items elicited from a prior qualitative study (Authors blinded for review, under review). Three seven-point semantic differential items were used, for each behaviour. The items asked participants to indicate how likely it was that each type of integration (recommending CAT or referring CAT) (1) would be questioned by governing bodies, (2) would be questioned by other clinical/counselling psychologists, or (3) would damage their professional reputation. The measures of risk were reliable with a Cronbach's alpha of .88 for recommending to CAT and .85 for referring CAT.

Past behaviour. Past behaviour was measured by one item, for each behaviour, in which participants were asked "Have you ever integrated CAT into your psychological practice by..." (*No* [1] or *Yes* [2]).

Knowledge. Knowledge was measured with a single item which asked participants to rate their level of knowledge in relation to the use of CAT for the treatment of psychological disorders on a scale from [1] *very poor* to [7] *excellent*.

Analysis

The analysis of the data for each of the behaviours was performed using SEMvia AMOS 17.0. Maximum likelihood was used to estimate the parameters of the model. Model fit was determined by the following indicators: chi-square test (non-significant), CFI (>0.95), and RMSEA (<0.08). Path coefficients and R^2 values were also inspected to evaluate the predictive power of the model.

Results

Of the surveys distributed, 122 (49%) were, fully or partially, completed and returned. Participants were 88 females and 34 males. Thirty-eight percent of the psychologists reported that they had used CAT for their own psychological well-being over the previous 12 months. See Table 1 for a more detailed description of the characteristics of the sample.

Means, standard deviations, and *t*-scores (to demonstrate any differences between behaviours on the study's variables) are presented in Table 2. Table 3 presents the

correlations between the constructs for the two behaviours. Listwise deletion was used for missing data, resulting in a loss of 3 participants. Thus, the final sample used for analysis comprised of 119 psychologists. For each of the behaviours of recommending CAT and referring CAT, separate SEM analyses were used to test the hypothesised relationships between intention, the TPB variables (attitude, subjective norm, perceived behavioural control), perceived risk, past behaviour, knowledge of CAT, and gender.

As per the TPB, the standard TPB predictors of attitude, subjective norm, and perceived behavioural control, in each separate SEM analysis, were allowed to co-vary among themselves. For the extended TPB variables, past behaviour was allowed to co-vary with perceived risk and with knowledge as research indicates that previous experience performing a behaviour may reduce perceived risks (Sönmez & Graefe, 1998) and that performing a particular behaviour is associated with reported knowledge about that behaviour (Berman, Bausell, & Lee, 2002). In addition, risk was allowed to co-vary with gender as there is evidence in the literature that women perceive greater risks than men for many behaviours, such as environmental health (Flynn, Slovic, & Mertz, 1994), buying online (Garbarino & Strahilevitz, 2004), and punishment for delinquent behaviour (Jensen, Erickson, & Gibbs, 1978).

Tests of the Model on Recommending CAT and Referring to CAT

For recommending CAT intentions (i.e., integrating CAT into their psychological practice by offering general recommendations for complementary or alternative therapies), the proposed model provided a good fit to the data, $\chi^2(9) = 10.70$, $p = 0.30$, CFI = .99, RMSEA = .040. Analysis of the model revealed that past behaviour informed the TPB variables of attitude, subjective norm, and perceived behavioural control; perceived risk influenced the TPB predictors of attitude, subjective norm, and perceived behavioural control; and the TPB predictors of attitude and subjective norm (but not perceived behavioural control), along with past behaviour, had direct effects on psychologists' intentions to recommend CAT. Perceived

risk, knowledge, and gender were not revealed as significant direct predictors of intentions. The final model explained 69% of the variance in psychologists' intentions to recommend CAT (see Figure 1).

For referring CAT intentions (i.e., integrating CAT into their psychological practice by offering referrals, written or verbal, to specific complementary or alternative practitioners), the proposed model provided a reasonable fit to the data, $\chi^2(9) = 15.07$, $p = 0.09$, CFI = .98, RMSEA = .075. Analysis of the model revealed that past behaviour informed the TPB variables of attitude, subjective norm, and perceived behavioural control; perceived risk influenced the TPB predictors of attitude, subjective norm, and perceived behavioural control; and the TPB predictors of attitude and subjective norm (but not perceived behavioural control), along with knowledge, had direct effects on psychologists' intentions to refer CAT. Perceived risks, past behaviour, and gender were not revealed as significant direct predictors of intentions. The final model explained 51% of the variance in psychologists' intentions to refer CAT (see Figure 2).

Discussion

Using an extended TPB framework, we aimed to understand the cognitions underlying psychologists' decision-making in relation to CAT integration via either offering general recommendations for complementary or alternative therapies (i.e., recommending CAT) or offering referrals, written or verbal, to specific complementary or alternative practitioners (i.e., referring CAT). Specifically, we proposed a model for each behaviour of recommending CAT and referring CAT to examine the contribution of attitude, subjective norm, perceived behavioural control, and perceived risk along with past CAT recommendations/referrals, knowledge of CAT, and gender. The extended TPB explained 69% and 51% of the variance in intentions for recommending CAT and referring CAT, respectively. For both behaviours, direct paths from attitude and subjective norms to intentions were observed, with perceived risk and past behaviour influencing the TPB predictors of attitudes, subjective norms, and perceived

behavioural control. For recommending CAT, however, past behaviour influenced intentions and for referring CAT, psychologists' knowledge of CAT predicted intentions. Gender did not significantly predict either of the CAT behaviours. The findings illustrate the role cognitive and risk factors have on psychologists' decisions to integrate CAT which can help to inform future policy or practice.

Although mean participant responses were primarily around the scale midpoint for the study's constructs, there was evidence of significantly more favourable attitudes, stronger perceptions of control, stronger intentions, and reduced risk perceptions among psychologists in relation to recommending, rather than referring CAT. These findings suggest that psychologists may be more comfortable providing general CAT recommendations to clients than endorsing specific CAT practitioners, consistent with other research detailing the preferred modes of CAT integration among psychologists (Bassman & Uellendahl, 2003).

In partial support of H1, attitude and subjective norm, but not perceived behavioural control, significantly predicted intentions. These findings suggest that psychologists who have more favourable attitudes toward CAT integration and perceive pressure from important others to integrate CAT will have stronger intentions to recommend CAT to clients and refer clients to specific CAT practitioners. These findings are consistent with other literature highlighting the advantages of CAT integration and normative influences on people's motivation to integrate CAT among health professionals (e.g., Godin et al., 2007; Halcon et al., 2003; Hirschhorn & Bouregault, 2005; Wilkinson & Simpson, 2001). Thus, increasing psychologists' positive attitudes toward CAT integration and highlighting the social approval of those who are important to them may prove effective in strengthening intentions to integrate CAT into psychological practice, if desired.

Contrary to predictions, perceived behavioural control did not directly inform intentions. It should be noted, however, that only one item was used to assess perceived behavioural control. As such, given that the perceived behavioural control item in this study primarily

reflected people's perceived controllability (see Ajzen, 1991), assessing this measure with items more reflective of people's self-efficacy may be useful. Furthermore, given that psychologists' behaviours may be constrained by codes of conduct, it is possible that perceptions of control may relate more closely to psychologists' general willingness to integrate CAT than having a specific intention to do so.

In relation to H2, it is well established that past behaviour will influence future intentions (Armitage & Connor, 2001), albeit largely through the TPB cognitions (i.e., attitude, subjective norm, perceived behavioural control), and this was the case for both the behaviours of recommending CAT to clients and referring clients to specific CAT practitioners. However, past behaviour also had a direct influence on intention to recommend CAT. This finding that past behaviour directly influenced intention to recommend, but not intention to refer, may be due to psychologists being more accepting of the practice of making recommendations to CAT rather than offering referrals to specific CAT practitioners (Bassman & Uellendahl, 2003).

Given the potential risks associated with CAT integration (e.g., dangerous side effects, ethical obligations), an examination of the role of risk within the TPB seemed warranted. In partial support of H3, perceived risk influenced the TPB predictors of attitude, subjective norm, and perceived behavioural control, but not intentions directly. These findings are consistent with the TPB (Ajzen, 1991) where it is postulated that perceived risk should influence the direct antecedents of intention (i.e., attitude, subjective norm, and perceived behavioural control) rather than intention itself. The findings are also supported by previous research where it has been found that risk perceptions influenced behaviour via attitudes (Ulleberg & Rundmo, 2003). These findings suggest that, to influence psychologists' attitudes and perceptions of social approval about CAT integration, targeting risk perceptions may be beneficial. For example, many psychologists may believe that integration of CAT would be frowned upon by their colleagues or by professional bodies. By making professional

obligations and expectations clearer, psychologists may better be able to determine under what circumstances integration would be beneficial to their clients.

In addition to risk perceptions, knowledge about CAT, but not gender, was an important predictor in the model. Knowledge was important (as a direct predictor of intentions) among psychologists for referring clients to specific CAT practitioners, but not to recommending CAT to clients. Psychologists, then, have stronger intentions to refer clients to specific practitioners when they feel more informed about CAT themselves. It is possible that having greater knowledge about CAT empowers psychologists to engage more fully in the collaborative care process. Surprisingly, though, there was no evidence for the impact of CAT knowledge on psychologists' intentions to recommend CAT to clients. It should be noted, however, that the knowledge measure was non-specific and future research may benefit from exploring whether psychologists prefer to have knowledge about the specific CATs to which they are referring.

Study Strengths and Limitations

This study has the major strengths of using a sound, well validated, theoretical approach for investigating a behaviour (i.e., integrating CAT) that is currently not well understood among psychologists and assessing this behaviour across different modes of integration (i.e., recommending CAT and referring CAT). There are a number of limitations, however, that deserve comment. First, the sample size was small and may have been subject to self selection bias. However, a relatively high proportion of psychologists contacted (approximately 80%) were willing to participate in the study and the reported usage of CAT amongst participants (38%) was markedly lower than that reported amongst the general population (52%) (MacLennan, et al., 2006; MacLennan, et al., 2002). It is, therefore, unlikely that response bias significantly impacted on the generalisability of the findings. Second, there was an uneven representation of female and male psychologists. Although this imbalance reflects the higher proportion of females practicing psychology in Australia, it may

be that our findings are primarily reflecting the view of female psychologists. It is possible that male psychologists may have different perceptions about CAT integration, at least as can be inferred from reported levels of personal use (MacLennan, et al., 2006; Satia-Abouta, et al., 2003). It should be noted that we tested for gender effects; however, a larger sample of males may have evidenced stronger gender effects. Future research should incorporate a larger sample size to investigate this possibility. Finally, the broad definition of CAT used in the current study may have limited the responses toward recommending and referring CAT. The underlying beliefs for subcategories of CAT might show some differences in the beliefs identified in this study. For example, psychologists' perceptions regarding alternative therapies that have stronger scientific evidence to support their usage (e.g., St. John's Wort, Folate, vitamin B12, and amino acids such as phenylalanine and S-Adenosylmethionine (SAME); Jorm et al., 2002) might be different for perceptions held toward alternative therapies less supported in the literature.

Conclusion

It is potentially limiting for psychologists to conform rigidly to a traditional counselling approach to therapy when at least half of their clients are likely to be utilising CATs (Elkins, Marcus, Rajab & Durgam, 2005). Many from within the psychological and medical community have diverged from a strict adherence to the allopathic model and are embracing CAT with varying degrees of success. Furthermore, it has been established, both in Australia and internationally, and both from the medical and psychological disciplines, that there is an ethical responsibility to be informed about all known treatment paths and to pass this knowledge on to clients. Suter, Verhoef, and O'Beirne (2004) have noted that evidence-based information is often readily available, but that health providers do not make use of it.

This study utilised an extended TPB which included an assessment of risk perceptions to understand psychologists' decision relating to CAT integration. Given the nature of the target behaviours (i.e., recommending CAT to clients and referring clients to specific CAT

practitioners), the model did not explore behaviour directly, but rather, explored psychologists' intention to integrate CAT. This approach was adopted because qualitative analysis suggested that these behaviours may be under-reported and because integration behaviour was thought to be limited by perceived risks and external barriers, such as workplace guidelines. In general, we found support for the TPB predictors of attitudes and subjective norms in predicting CAT integration intentions among psychologists. Furthermore, we found support for perceived risks and past behaviour in informing psychologists' attitudes and perceptions of social approval and control. Past behaviour was also found to have a direct influence on psychologists' intentions to recommend CAT to clients whereas knowledge was important for psychologists making client referrals to specific CAT practitioners.

By understanding the cognitions underlying psychologists' decisions about CAT integration, any change in policy and practice can be facilitated in a manner that considers their attitudes and perceptions of social pressures about CAT integration. In addition, it is important to consider the risks (perceived and real) about CAT integration which have shown to influence the attitudes and social pressures among psychologists for this emerging practice issue.

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Table 1

Demographic Characteristics of Participants, Including Number Using CAT for Their Own Mental Health during the Past Year

Demographic Characteristics	N (%)
Gender	
Male	34 (27.9)
Female	88 (72.1)
Age Category	
25 or less	10 (8.2)
26 – 35	46 (37.7)
36 – 45	28 (23.0)
46 – 55	20 (16.4)
56 – 65	13 (10.7)
Over 65	3 (2.5)
Highest Education	
Fourth year degree	45 (36.9)
Masters degree – coursework	38 (31.1)
Masters degree – research	4 (3.3)
Doctorate – professional	22 (18.0)
Counselling Orientation	
Eclectic	50 (41.0)
Psychodynamic	23 (18.9)
Cognitive Behavioural	88 (89.3)
Narrative	13 (10.7)
Family Systems	9 (7.4)
Jungian	30 (24.6)
Other	16 (12.7)
Used CAT for Mental Health	47 (38.5)

Note. Participants could choose more than one counselling orientation category

Table 2

Means, Standard Deviations, and t-scores Comparing Integration Behaviours (N = 122)

Variable	<i>r</i>	Recommend		Referral		<i>t</i>
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
1. Intention	.53***	3.61	1.87	2.98	1.82	3.85***
2. Attitude	.76***	4.59	1.38	4.22	1.55	3.77***
3. Subjective norm	.83***	3.63	1.30	3.56	1.37	1.30
4. Perceived behavioural control	.69***	4.97	1.32	4.60	1.44	3.73***
5. Perceived risk	.75***	4.30	1.38	4.71	1.31	-4.75***

*** $p < .001$.

Table 3

Bivariate Correlations and Reliability Co-Efficients for Recommending and Referring CAT (N = 122)

Variable	1.	2.	3.	4.	5.	6.	7.	8.
1. Intention	--	.77***	.70***	.31***	-.37***	.55***	.37***	.02
2. Attitude	.64***	(.94/.95)	.61***	.27**	-.34***	.50***	.33***	-.05
3. Subjective norm	.60***	.66***	(.71/.78)	.34***	-.50***	.45***	.29***	-.06
4. Perceived behavioural control	.24***	.16	.32***	--	-.41***	.41***	.31***	-.24**
5. Perceived risk	-.25**	-.42***	-.51***	-.35***	(.85/.88)	-.21*	-.16	.21*
6. Past behaviour	.44***	.46***	.39***	.31***	-.22*	--	.47***	-.06
7. Knowledge	.46***	.36***	.38***	.32***	-.18*	.40***	--	.04
8. Gender	.01	-.05	-.11	-.12	.18	-.04	.10	--

Note. Correlations for recommending presented above diagonal. Correlations for referral presented below diagonal. Reliability coefficients presented (Referral/Recommend).

* $p < .05$. ** $p < .01$. *** $p < .001$.

Figure 1. Theoretical Model for Predicting Psychologists' Intentions to Recommend CAT (N = 119)

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Figure 2. Theoretical Model for Predicting Psychologists' Intentions to Refer CAT (N = 119)

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$