

Buddhist philosophy for the treatment of problem gambling

EDO SHONIN^{1,2}, WILLIAM VAN GORDON² and MARK D. GRIFFITHS¹

¹Psychology Division, Nottingham Trent University, Nottingham, UK

²Awake to Wisdom, Centre for Meditation, Mindfulness, and Psychological Wellbeing, Nottingham, UK

(Received: November 26, 2012; revised manuscript received: January 4, 2013; accepted: January 4, 2013)

Purpose: In the last five years, scientific interest into the potential applications of Buddhist-derived interventions (BDIs) for the treatment of problem gambling has been growing. This paper reviews current directions, proposes conceptual applications, and discusses integration issues relating to the utilisation of BDIs as problem gambling treatments. *Method:* A literature search and evaluation of the empirical literature for BDIs as problem gambling treatments was undertaken. *Results:* To date, research has been limited to cross-sectional studies and clinical case studies and findings indicate that Buddhist-derived mindfulness practices have the potential to play an important role in ameliorating problem gambling symptomatology. As an adjunct to mindfulness, other Buddhist-derived practices are also of interest including: (i) insight meditation techniques (e.g., meditation on ‘emptiness’) to overcome avoidance and dissociation strategies, (ii) ‘antidotes’ (e.g., patience, impermanence, etc.) to attenuate impulsivity and salience-related issues, (iii) loving-kindness and compassion meditation to foster positive thinking and reduce conflict, and (iv) ‘middle-way’ principles and ‘bliss-substitution’ to reduce relapse and temper withdrawal symptoms. In addition to an absence of controlled treatment studies, the successful operationalisation of BDIs as effective treatments for problem gambling may be impeded by issues such as a deficiency of suitably experienced BDI clinicians, and the poor provision by service providers of both BDIs and dedicated gambling interventions. *Conclusions:* Preliminary findings for BDIs as problem gambling treatments are promising, however, further research is required.

Keywords: problem gambling, behavioural addiction, mindfulness, meditation, Buddhism

INTRODUCTION

“And what, monks, is the Noble Truth of the Origin of Suffering? It is craving...”
Buddha (~500 BCE)

According to findings of the 2010 British Gambling Prevalence Survey (BGPS), approximately 75% of adults engage in online and/or offline gambling (Wardle et al., 2011). The BGPS ($n = 7756$) also reports that just under 1% of British adults meet DSM-IV criteria for problem gambling, a statistically significant increase from the 0.6% prevalence estimate of 2007. Higher rates are reported for the US and Canada where point prevalence estimates are in the region of 2.5% (Chou & Afifi, 2011; Kessler et al., 2008). Problem gambling is highly comorbid with various substance use disorders, mood disorders, and anxiety disorders (e.g., Griffiths, Wardle, Orford, Sproston & Erens, 2010; Lorains, Cowlshaw & Thomas, 2011). Related health problems also include sleeping disorders, intestinal dysfunction, migraines, muscular pain, and other stress-related psychosomatic symptoms such as loss of appetite (Griffiths, 2004). Furthermore, problem gamblers account for up to 30% of gambling spend and are particularly at-risk for debt and bankruptcy (Orford, Wardle & Griffiths, 2012). Problem gambling is also positively correlated with domestic violence and crime, family breakups, job loss, reduced workforce productivity, and suicide (Griffiths, 2004). Problem gambling has serious medical, social, and economic implications with the National Council on Problem Gambling estimating \$6.7 billion as the cost of problem gambling to the US economy (Nance-Nash, 2011), and GamCare (2012) estimating £3.6 billion as the cost to the British economy.

‘Second-wave’ cognitive behavioural therapies (CBTs) have consistently been regarded as the ‘intervention of choice’ for the treatment of problem gambling (Rickwood, Blaszczynski, Delfabbro, Dowling & Heading, 2010). Cognitive-behavioural approaches share a common mechanism of therapeutising via the restructuring of maladaptive core beliefs (Wells, 1997). In effect, patients are empowered to control and modify cognitive distortions and to ‘self-intervene’ at the level of individual thoughts and feelings. Whilst CBT is cautiously advocated for the treatment of problem gambling, CBT does not appear to be an effective or accessible treatment for all problem gambling patients (de Lisle, Dowling & Allen, 2012). Furthermore, relapse rates for problem gambling can be as high as 75% (Hodgins, Currie, el-Guebaly & Diskin, 2007) and there is a scarcity of high quality CBT trials reporting long-term follow-up data (Gooding & Tarrier, 2009).

Throughout the last two decades, Buddhist principles have increasingly been employed in the treatment of a wide range of psychological disorders. Such conditions include (amongst others) mood and anxiety disorders (Hofmann, Sawyer, Witt & Oh, 2010), substance use disorders (Marlatt, 2002), bipolar disorder (Chiesa & Serretti, 2011), and schizophrenia (Johnson et al., 2011). The emerging role of Buddhism in clinical settings appears to mirror a growth in research examining the potential effects of Buddhist meditation on brain neurophysiology (e.g., Cahn, Delorme & Polich, 2010). Such research forms part of a wider dialogue

* Corresponding author: Edo Shonin, Psychology Division, Nottingham Trent University, Nottingham, NG1 4BU, UK; E-mail: e.shonin@awaketowisdom.co.uk

concerned with the evidence-based applications of specific forms of spiritual practice for improved psychological health (Kelly, 2008). The central role played by Buddhism in this respect is probably due to its orientation as more of a philosophical and practice-based system (as opposed to some religions where there is a greater emphasis on worship and dogma) (Van Gordon, Shonin, Sumich, Sundin & Griffiths, 2013).

Various Buddhist principles have been integrated into a number of ‘third-wave’ cognitive behavioural approaches (Howells, Tennant, Day & Elmer, 2010). Rather than a deliberate attempt to control and modify individual cognitions (i.e., the second wave CBT approaches), third wave approaches operate via a mechanism of transformative meditative awareness and perceptual re-distancing. As part of the wider increase in research assessing the psychotherapeutic utility of Buddhist-derived interventions, in the last five years there has also been growing interest and scientific investigation into the potential applications of BDIs for the treatment of problem gambling.

Given the relatively recent introduction of third wave treatments as applied to behavioural addictions, this paper provides an interpretation of the behavioural addiction construct from the Buddhist philosophical perspective and a narrative review of current directions in the utilisation of BDIs as problem gambling treatments. Conceptual applications for BDIs in problem gambling (and other behavioural addiction) populations are proposed and discussed along with an assessment of roll-out and integration issues.

PROBLEM GAMBLING AND BEHAVIOURAL ADDICTION: A BUDDHIST PHILOSOPHICAL PERSPECTIVE

Buddhism originated approximately 2,600 years ago and is based on the teachings of Siddhartha Gautama who attained ‘enlightenment’ (henceforth becoming known as Shakyamuni Buddha) and taught extensively throughout India. Although accounts of the Buddha’s life are well documented, rather than the worship of a historical figure, Buddhist practice is quintessentially concerned with the everyday application of spiritual and meditative principles as a means of transforming suffering and realising the ‘Buddha nature’ (Sanskrit: *sugatagarbha*) that lies within each individual (Dewey Dorje, Dudjom Rinpoche, Ugyen Tulku & Nyima Rinpoche, 2008).

Although context and terminology differ considerably between Buddhist and psychological perspectives, Buddhist teachings present an extensive coverage of the behavioural addiction construct, along with its ‘aetiology’, ‘classification’, and ‘treatment’ (it should be noted that although there is a great deal of common-ground, different Buddhist schools place emphasis on different aspects of the Buddhist teachings and operationalise their meaning in different ways). In order to fully appreciate some of the subtleties of Buddhist thought, in addition to the two conventionally accepted categories of substance addiction and behavioural addiction, the present authors introduce and propose a third category of addiction known as ‘ontological addiction’.

Ontological addiction refers to the unwillingness to relinquish an erroneous and deep-rooted belief in an inherently existing ‘self’ or ‘I’ as well as the ‘impaired functionality’ that arises from such a belief. Buddhist teachings con-

tend that due to a mistaken view of self and the absolute manner in which phenomena abide, a dualistic (i.e., self and other) outlook arises (Dalai Lama, 1997). To a large extent, Buddhist philosophy is constructed around the notions of ‘non-self’ (Sanskrit: *anatman*) and ‘emptiness’ (Sanskrit: *sunyata*). According to this ontological stance, there is no inherently existing ‘self’ or other phenomena that arise aside from being a mental designation (i.e., a label). The *Madhyamaka* school of Mahayana Buddhism postulates that the self is an imputed construct that cannot be identified in separation from its causes and attributes, and nor can it be found within those causes and attributes whether in singular or in sum (Nagarjuna, 1995). For example, a motor vehicle cannot be said to exist (i) in isolation from its parts, (ii) as each part individually, or (iii) as the sum of its parts (because as a collective the component parts do not cease to be component parts but are now assigned the label of ‘motor vehicle’).

An alternative means of understanding emptiness is according to the *Cittamatra* (mind only) perspective. The *Cittamatra* school of Buddhism asserts that much like a dream, all phenomena are of the nature of mind and arise and dissolve within the expanse of uncontrived mind-display (Asanga, 2001). Similar analogies for the ultimate mode of abiding of phenomena are provided in sutras such as the King of Concentration Sutra (Sanskrit: *Samadhiraja sutra*) and include a mirage, an apparition, an echo, a reflection, and a magician’s illusion. In other words, for the realised being, phenomena are apprehended as empty on the one hand, but with absolute clarity on the other (Dudjom, 2005).

Rather than enact a detailed study and analysis of each of the individual sub-categories of potential behavioural addiction (e.g., gambling, gaming, sex, exercise, eating, work, etc.), Buddhism is focussed more on understanding (and transforming) the root cause of all dysfunctional addictive tendencies. To a large extent, the term ‘addiction’ (in relation to its operationalisation in the psychological literature) can be considered to be synonymous with the Buddhist notion of ‘attachment’ (Sanskrit: *raga*). Unlike its conceptualisation in Western psychology where attachment (e.g., within the context of relationships) is generally understood to be an important coping strategy, attachment within Buddhism is considered to be an undesirable quality (Sahdra, Shaver & Brown, 2010).

Thus, Buddhist teachings assert that due to the erroneous belief in an inherently existing self (i.e., ontological addiction), the ‘self’ begins to crave after and becomes attached to objects and experiences that it perceives as being beneficial, and has aversion towards their opposites (Chah, 2011). Attachment in this regard is considered to be functionally maladaptive because it invariably results in the creation of ‘karma’ which perpetuates transmigration through the cycle of birth, suffering, death, and rebirth (Sanskrit: *samsara*). In certain respects this is analogous to the concept of Game Transfer Phenomena (Ortiz de Gotari, Aronson & Griffiths, 2011) in which some frequent video game players can experience degrees of reality distortion and exhibit signs of game play during everyday activities (e.g., impulses, reflexes, intrusive thoughts, optical illusions, dissociations, etc.). However, the key difference for the person with ontological addiction is that rather than experiencing ‘fictional’ game play during ‘real’ life, they live out what they believe to be ‘real life’ whilst immersed in an illusory game. In other words, the person with ontological addiction experiences reality distortion due to playing (i.e., being born into) ‘samsara’s game’ or the ‘game of life’, and then becoming

attached to the illusory dream-like nature of phenomena and forgetting to apprehend them as the spontaneous movements of the mind.

Continuing with this stream of Buddhist thought, behavioural addiction (in whatever guise or modality) can be regarded as the expression of the deluded mind attempting to reify the ego-self (i.e., a form of 'self-addiction'). The deluded mind believes that happiness is to be found via the gratification of mental urges. However, as the Dhammapada reports the Buddha to have said: "All that we are is the result of what we have thought: it is founded on our thoughts, it is made up of our thoughts. If a man speaks or acts with an impure thought, pain follows him, as the wheel follows the foot of the ox that draws the carriage... If a man speaks or acts with a pure thought, happiness follows him, like a shadow that never leaves him" (p. 7, 2006). Since attachment can be considered an impure thought (due to being based on a dualistic perspective), rather than happiness it is increased craving and dissatisfaction that ensues. Thus, at the most basic level of Buddhist reasoning, the addicted gambler can be regarded as a person suffering from spiritual malnutrition who frantically yearns for happiness, but has the wrong view (Sanskrit: *mithya drishti*) in terms of discriminating between karmically wholesome and unwholesome actions.

According to this manner of conceptualising the Buddhist teachings, the actual object of addiction becomes less important than the need to be addicted. Indeed, Buddhist philosophy does not necessarily discriminate between forms of addiction that are conventionally accepted to impair functionality (e.g., gambling addiction) and addiction to what are termed 'mundane concerns'. Mundane concerns (which in certain Western psychological contexts might actually be considered to be psychosocially adaptive) refer to a preoccupation with advancing sensory gratification, renown, career and wealth, and/or power (Buddhism does not discourage activities such as career engagement, or the enjoying of comfortable surroundings, but simply advocates non-attachment to such undertakings/experiences). From the Buddhist perspective, this preoccupation or addiction provides a comfort zone of ignorance. The mind is self-deceived and continues to chase one meaningless dreamlike experience after another, fixed in a cycle of uncontrolled rumination *ad nauseam*, and never daring to stop in order to observe itself. Indeed, certain Buddhist teachings maintain that until the mind recognises its own 'unborn' and original nature, this discursive, restless, tormented state never ceases – not even as part of the dream and between-state (Tibetan: *bardo*) consciousness (Urgyen, 2000). (The between-state consciousness refers to the consciousness and 'mental body' that become superior after death but before rebirth.)

Just as certain schools of Buddhist thought maintain that beings are endowed with 'primordial enlightenment' and that liberation is simply the process of 'breaking through' layers of adventitious karmic and habitual obscuration (Sanskrit: *vasana*) (e.g., Rabjam, 2002), it can also be argued that until such awareness dawns, the mind remains in a state of 'primordial addiction'. In effect, this is a coping strategy of the ego-self that relies upon the mind remaining in an addicted state. At the most profound level, Buddhist philosophy postulates 'addiction-addiction' (i.e., addiction to addiction itself) as the primary (and primordial) aetiological factor that maintains addictive behaviour.

Meditative strategies (including the use of mindfulness) are therefore employed as a means of taking hold of and be-

coming aware of the deluded mind. From the Buddhist perspective, the practice of meditation can be regarded as a risk management strategy. In this respect, Buddhist philosophy makes implicit reference to what might be termed the 'life-gamble'. The 'life gamble' refers to a basic 'universal choice' in terms of whether or not to engage in spiritual practice (irrespective of any religious label). On the one hand, the life gambler can adopt a self-centred outlook and bet 'all-in' on the belief of no afterlife and of no karmic consequence to actions in this life or beyond. The alternative is for the life gambler to 'hedge their bets' and integrate spiritual practice (in whatever guise) into their life in order to cultivate spiritual well-being during this life, and to prepare themselves for death. According to the Buddhist standpoint, the first scenario reflects a 'high-risk low-reward' strategy because if the life gambler is wrong and 'mind-essence' continues beyond this lifetime, then there is a strong probability of mental anguish, regret, and disorientation during the death phase transition. The second scenario, therefore, reflects a 'low-risk high-reward' strategy because if it transpires that there is no 'existence' after death, then there will be no stream of consciousness to experience regret due to having needlessly engaged in spiritual practice. However, if it transpires that the thread of subtle-consciousness does indeed endure throughout successive lifetimes, then the life gambler not only reaps the benefit of spiritual practice during this life, but is also better prepared for experiencing the various (and otherwise petrifying) death visions, sounds, and faints with greater confidence/awareness and for continuing their spiritual journey in subsequent lifetimes (until the attainment of liberation).

METHOD

A comprehensive literature search using *MEDLINE*, *Science Direct*, *ISI Web of Knowledge*, *PsychInfo*, and *Google Scholar* electronic databases for papers published up to December 2012 was undertaken. Reference lists of retrieved articles and review papers were also examined for any further studies. The search criteria used were 'Buddhis*', OR 'meditation', OR 'mindfulness', in combination with (AND) 'gambling', OR 'gaming'. Given the emerging nature of the research area, inclusion criteria were set as broad as possible. Eligible studies were those that (i) assessed problem gambling related outcomes and/or relationships in clinical or healthy adult samples, and (ii) involved the study of a Buddhist-derived intervention or meditation technique. Papers were excluded from further analysis if they (i) did not include new data (e.g., a theoretical and/or descriptive review paper), (ii) were not published in refereed journals, or (iii) were not written in English language.

RESULTS AND CURRENT DIRECTIONS

The initial literature search yielded a total of ten papers and four papers were eligible for in-depth review and assessment. Each of the four included studies focused on the Buddhist technique known as mindfulness meditation. Mindfulness is described in the psychological literature as purposeful, moment-to-moment, non-judgemental awareness (Kabat-Zinn, 1990). Proposed mechanisms for the mediating effects of mindfulness on addiction centre upon the ac-

ceptance, non-reactive awareness, and ‘unfiltered present-moment-experiencing’ of mental urges (sometimes referred to as ‘urge surfing’). According to Appel and Kim-Appel (2009), urge surfing regulates cravings for euphoric states that are a means of ‘escaping’ from the present moment. An example of a mindfulness-based intervention utilised for the treatment of problem gambling is Mindfulness-Based Cognitive Therapy (MBCT). MBCT is a group-based intervention (Segal, Williams & Teasdale, 2002) generally delivered over an eight-week period and comprises (i) weekly sessions typically between two and three hours duration, (ii) guided mindfulness exercises, (iii) yoga exercises, (iv) a CD of guided meditation to facilitate self-practice, and (v) an all-day silent retreat component.

Studies of mindfulness for the treatment of problem gambling

Lakey, Campbell, Brown and Goodie (2007) assessed interactions between gambling severity (Diagnostic Interview for Gambling Severity [Winters, Specker & Stinchfield, 2002]) and dispositional mindfulness (Mindful Attention and Awareness Scale [Brown & Ryan, 2003]) based on a sample of undergraduate students ($n = 309$). Participant scores indicated a range of impulse control problems, with approximately one-third of students meeting the clinical cut-off for pathological gambling. Dispositional mindfulness was shown to predict gambling severity, with higher levels of mindfulness reflecting reduced severity of gambling involvement. The relationship was shown to be partially mediated by better performance on two decision-making tasks that measure overconfidence and risk willingness, as well as myopic focus on reward. A further cross-sectional study comprising treatment-seeking problem gamblers ($n = 103$) showed that mindfulness was associated with thought suppression and that the relationship was mediated by experiential avoidance (Riley, 2012).

To date, treatment studies of mindfulness approaches for problem gambling have been limited to a small number of case studies. Toneatto, Vettese and Nguyen (2007) undertook a case study of a male in his sixties (the exact age was not reported) who demonstrated problem gambling behaviours (relating to offline roulette playing). Mindfulness practice (45 minutes of daily self-practice for several weeks) was introduced as an adjunct to CBT. The participant demonstrated superior outcomes following the introduction of mindfulness practice (compared to a prior phase of stand-alone CBT) and reported reductions in gambling urges as well as greater awareness and regulation of gambling-related feelings and thoughts. The study was limited by the absence of any quantifiable data (i.e., pre-post and follow-up measures) and by inadequate information regarding the nature of the mindfulness training.

A more recent study by de Lisle, Dowling and Allen (2011) presented the case of a 61-year-old female problem slot machine gambler (with comorbid anxiety and depression) who received MBCT. The intervention was modified for one-to-one delivery and was delivered over an eight-week period (weekly 2-hour sessions) by an accredited MBCT instructor. Booster sessions were provided four and ten weeks after completion of the course and pre-post and follow-up measures were taken for gambling frequency, gambling expenditure, and weekly gambling duration. Following completion of the program, the participant demon-

strated abstinence that was maintained at 10-week follow-up. Clinically significant reductions were also reported for depression and anxiety.

Obviously, the single case study nature of these treatment interventions considerably limits the generalisability of findings. Furthermore, it is difficult to determine to what extent improvements were due to mindfulness practice as opposed to therapeutic alliance or other therapeutic conditions (e.g., unconditional positive regard, active listening, accurate empathy, etc.) established during the one-to-one sessions.

CONCEPTUAL DIRECTIONS

In addition to mindfulness approaches, a number of other empirically established BDIs may be particularly suited for the treatment of problem gambling. The proposals that follow are grounded on findings of BDI studies (from both problem gambling and other addiction/clinical population settings) whereby BDIs have been shown to moderate key components and correlates of problem and/or pathological gambling. The following headings are therefore adopted as a means of conceptually stratifying the elucidation of the hypothetical treatment applications of BDIs in problem gambling samples: (i) sensation-seeking and escapism (e.g., dissociation, avoidance, thought suppression, fantasising, etc.), (ii) salience (e.g., risk willingness, diminished self-control, impulsivity, judgement and decision-making bias, preoccupation, myopic focus on reward, etc.), (iii) conflict (e.g., guilt, self-blame, loss-chasing, negative affective states, suicidal ideations, emotional dysregulation, impaired relaxation ability, bail-out, etc.), and (iv) tolerance (e.g., increasingly larger and more frequent wagers), withdrawal (e.g., increased moodiness, irritability, etc.), and relapse.

Sensation seeking and escapism:

Insight meditation techniques

Problem gambling is positively correlated with dissociative states and avoidance strategies (e.g., Griffiths, Wood, Parke & Parke, 2006; Wood, Gupta, Derevensky & Griffiths, 2004). A qualitative study ($n = 50$) by Wood and Griffiths (2007) found that fantasising and dissociation-induced mood-modification were important coping strategies employed by problem gamblers. Interestingly, problem gamblers in this study reported engaging in gambling activities as a means of ‘filling the void’. Buddhism teaches that rather than escaping the ‘void’ via maladaptive avoidance strategies, it is actually within the ‘void’ (or ‘emptiness’) where transformative insight can be generated. Buddhist teachings assert that through regular practice, the meditator can come to realise that at the heart of ‘emptiness’ exists ‘fullness’ and contentment (Nhat Hanh, 1992). This is because if phenomena (including the self) are void or empty of an independent self, then they arise in interdependence with, and are therefore ‘full’ of, all other things. Thus, with the correct meditative training and ontological re-perceptualising, it is hypothesised by the present authors that the feeling of ‘voidness’ that often underlies and maintains problem gambling behaviour can actually become the ‘raw material’ for meditative transformation and psychotherapeutic change.

A number of recent studies indicate that Buddhist insight meditation techniques may have utility as problem gambling

interventions. A recent qualitative study by McCormack and Griffiths (2012) demonstrated that reduced ‘authenticity’ and ‘realism’ were key inhibiting factors for online gambling. It therefore seems plausible that the partial experiencing of ‘non-self’ (and emptiness) by problem gamblers who receive training in insight meditation (Sanskrit: *vipasyana*) techniques, could potentially effectuate an undermining of the intrinsic value and ‘authenticity’ that problem gamblers assign to the gambling experience. This postulation is supported by findings from a cross-sectional study (of 511 adults and 382 students) by Sahdra et al. (2010). They found that reduced attachment to ‘self’ begets reductions in avoidance, dissociation, alexithymia, and fatalistic outlook. The same study also found that ‘non-attachment’ predicted greater levels of mindfulness, acceptance, non-reactivity, self-compassion, subjective well-being, and eudemonic well-being. Furthermore, in a small controlled trial of an eight-week secularised BDI known as Meditation Awareness Training (an intervention that integrates insight meditation techniques in conjunction with trainings in mindfulness, self-discipline, and compassion meditation), a sub-clinical sample of university students demonstrated sizeable and significant improvements compared to controls in levels of psychological distress (Van Gordon et al., 2013).

Salience: The ‘application of antidotes’

Impulsivity and lack of self-control are known concomitants of problem gambling (e.g., Benson, Norman & Griffiths, 2012). Conversely, high self-control is correlated with better psychological adjustment and reduced impulse control problems across a range of psychological disorders (Tangney, Baumeister & Boone, 2004). Buddhist meditation increases control over mental urges (Perelman et al., 2012) and certain Buddhist schools advocate the application of ‘antidotes’ as a means of regulating craving and afflictive mental states (Sanskrit: *kleshas*) (Gampopa, 1998). An example is the cultivation of patience to overcome impulsivity, frustration, and anger. High levels of patience predict various facets of adaptive psychological and interpersonal functioning (Curry, Price & Price, 2008). Furthermore, patience in the form of ‘deferment of gratification’ has a strong negative predictive value for pathological gambling (Parke, Griffiths & Irwing, 2004).

The application of ‘antidotes’ as part of Buddhist training is similar to aspects of CBT where patients are guided to replace faulty thinking patterns with more constructive cognitions (Wells, 1997). A further ‘antidote’ taught as part of Buddhist training is ‘impermanence’ (Sanskrit: *anitya*). Impermanence refers to the transient nature of phenomena and is taught and practiced to overcome attachment to mundane concerns such as wealth and sensory gratification. Kumar (2005) contends that impermanence awareness can produce various beneficial effects due to a radical acceptance of the transitory and precious nature of human existence (p. 8). Furthermore, Bien (2006) posits that regular meditative insight into impermanence can lead to reduced self-absorption and a greater appreciation of the present moment. It is plausible that problem gamblers who receive training in impermanence meditation techniques may exhibit reductions in myopic focus on reward (i.e., due to better understanding that all that is won must ultimately be lost), as well as reductions in salience more generally.

In a recent study of Meditation Awareness Training, participants were trained to integrate antidote practices (including impermanence) into their meditative training. Following course completion, participants reported a greater willingness to relinquish rigid habitual behavioural patterns as well as reductions in cognitive and emotional inflexibility (Van Gordon et al., 2013). Impermanence practice may also have utility for other forms of behavioural addictions such as sex addiction. In this context, secularised BDIs could draw upon Buddhist sutras such as the Mahasattipatana sutra that include detailed meditations on the ‘ugliness’ of the body (i.e., the body is composed of ‘foul substances’ such as blood, pus, vomit, phlegm, mucus, faeces, urine, sweat, etc.) and the decomposition of the body (e.g., seeing the body in its destined form as a repulsive and rotting corpse – of interest only to scavenging animals). According to Buddhist teachings, meditations of this nature can help to reduce attachment to the body (both towards one’s own and others) along with any over-exaggeration of its attractive qualities (Chah, 2011).

Conflict: Self-compassion, compassion, and ‘spiritual nourishment’

Problem gambling is highly comorbid with negative affective states including depression, anxiety, and suicidal ideations (e.g., Lorains et al., 2011). Neuroticism, hypertension, an inability to relax, and altered patterns of autonomic arousal are all associated with behavioural addiction (e.g., Mehwash & Griffiths, 2010; Sharpe, 2004). Furthermore, findings from the National Comorbidity Survey-Replication demonstrate that almost half of individuals with problem gambling behaviour (and over two-thirds with pathological gambling behaviour) experience sleep problems (Parhami, Siani, Rosenthal & Fong, 2012).

Meditative absorption reduces psychological distress, fosters inner-calm, improves sleep quality, and reduces autonomic and psychological arousal (e.g., Derezotes, 2000; Rungreangkulkji, Wongtakee & Thongyot, 2011; Sumpter, Monk-Turner & Turner, 2009). Buddhist-based loving-kindness meditation increases positive affect, reduces negative affect, and improves implicit and explicit positivity towards self and others (Hofmann, Grossman & Hinton, 2011). Furthermore, increased breathing awareness (a fundamental aspect of many forms of Buddhist meditation) increases prefrontal functioning and vagal nerve output along with associated reductions in heart rate (Gillespie, Mitchell, Fisher & Beech, 2012).

‘Conflict’ as a component of problem gambling also assimilates the negative schemas of guilt and self-blame which are symptomatic of the problem gambling condition (Parke, Griffiths & Parke, 2007). Problem gamblers are known to engage maladaptive thought suppression strategies in order to cope with these distressing feelings (Ciarrocchi, 2002). However, whilst associations between ‘conflict’ and problem gambling are well-reported, gamblers who employ ‘positive thinking strategies’ (e.g., comparative thinking, prophylactic thinking, prioritisation, resourcefulness, thoughtfulness, and fear reduction, etc.) report fewer instances of guilt compared to non-positive thinking gamblers (Parke et al., 2007).

‘Positive thinking’ is an integral component of Buddhist meditation and is particularly emphasised in the practices of

loving-kindness and compassion meditation. Compassion (Sanskrit: *karuna*) is considered by the Dalai Lama (2001) to embody the very essence of Buddhist practice, and improves the regulation of neural emotional circuitry (Lutz, Brefczynski-Lewis, Johnstone & Davidson, 2008). Self-compassion is associated with increased life satisfaction and adaptive psychological functioning (Neff, Kirkpatrick & Rude, 2007), and outperforms mindfulness as a predictor of quality of life and symptom severity for patients with anxiety and depression (Van Dam, Sheppard, Forsyth & Earleywine, 2011). According to Khyentse (2006), compassion and self-compassion facilitate greater meditative awareness, which corresponds to an increased ability to label and therefore modulate affective states (Gillespie et al., 2012). Thus, consistent with the growing clinical evaluation and utilisation of compassion-focussed therapies (Gilbert, 2009; Hofmann et al., 2011), self-compassion and compassion techniques may help to dismantle problem gambler's maladaptive shameful and self-disparaging schemas.

A frequently overlooked mechanism of BDIs (including mindfulness practices) is that of transformation effectuated by spiritual development. Nevertheless, a small number of BDI studies explicitly report improvements in spiritual awareness (Mackenzie, Carlson, Munoz & Speca, 2007; Roth & Stanley, 2002; Van Gordon et al., 2013). Indeed, Buddhist philosophy is constructed on the view that stable unconditional happiness (Sanskrit: *sukha*) can only be achieved via spiritual practice and that all forms of addiction/attachment are maladaptive 'spiritual coping strategies'. Spirituality predicts subjective well-being and attainment of abstinence in persons with a diagnosis of pathological gambling (Walsh, Ciarrocchi, Piedmont & Haskins, 2007). Spirituality also exerts a protective influence over gambling frequency and spend (Hodge, Andereck & Montoya, 2007), and it is well known that some programs (e.g., 12-step programs like Gamblers Anonymous) are constructed upon spiritual principles. Thus, BDIs may help to ameliorate problem gambling symptomatology by providing spiritual nourishment to problem gamblers and by the attenuation of feelings of loneliness and low sense of purpose.

Tolerance, withdrawal, and relapse: 'Bliss substitution' and 'the middle-way'

Up to three-quarters of problem gamblers relapse after a period of abstinence following treatment (Hodgins et al., 2007). Problem gamblers typically evince greater levels of tolerance, and place increasingly higher wagers to derive the same euphoric effect (Griffiths, 1996). A number of Buddhist principles employed by Marlatt (2002) for the treatment of substance addiction may also have utility for the treatment of problem gambling. Marlatt (2002) utilised Buddhist 'middle-way' philosophy that discourages the behavioural extremes of both over-indulgence and total abstinence. Whilst problem gambling treatments tend to be abstinence orientated (Walsh et al., 2007), 'controlled gambling' can exert a strong preventative influence over relapse and lead to continued improvements in levels of arousal, anxiety, and depression (Blaszczynski, McConaghy & Franko, 1991).

From the Buddhist middle-way perspective, total abstinence can still be considered a behavioural extreme because rather than being transformed, it could be argued that underlying 'attachments' and resultant mental urges are merely

suppressed by avoiding stimuli (e.g., gambling venues, online gaming sites, etc.) that induce arousal. Comparable to thought suppression which can actually increase the frequency and intensity of mental urges (de Lisle et al., 2012), abstinence-related 'behavioural suppression' could mean that addictive tendencies remain latent within the individual with a strong likelihood of resurfacing (i.e., relapse) at a future time point. High rates of relapse in problem gamblers appear to support such a proposition. Furthermore, although the Buddhist middle-way approach seems to advocate control over abstinence, it is important to clarify that 'control' in this sense arises from therapeutic targeting at the level of underlying 'core-beliefs' and attachments to self (i.e., ontological addiction), rather than at the symptom-level of promoting the suppression and/or selective indulging of gambling impulses.

Other aspects of Buddhist practice with potential utility for reducing relapse and tempering withdrawal symptoms relate to the use of substitution techniques. Substitution techniques are already used in problem gambling interventions and (for example) include recreational and social task-engagement to help moderate the risk of relapse (Jackson, Francis, Byrne & Christensen, 2013). 'Bliss' is frequently referred to in the Buddhist literature as an outcome of certain concentrative forms of meditation (e.g., Khyentse, 2007). Based on the work of Glasser (1976), Griffiths (1996) notes that meditation can be viewed as a positive addiction and it is feasible that 'bliss substitution' could be used adjunctively with middle-way techniques to maximise the maintenance of beneficial outcomes in problem gamblers who undergo treatment using BDIs.

INTEGRATION AND ROLL-OUT ISSUES

Factors that may impede the successful integration of BDIs as treatments for problem gambling relate to the translational difficulties of assimilating Eastern techniques into Western culture. Of particular bearing is the competence and training of clinicians and facilitators of BDIs who may not have the experience to impart an embodied 'authentic' transmission of the subtler aspects of meditation practice (Shonin, Van Gordon & Griffiths, 2012). A further issue is the relative reluctance of Westerners to partake in introspective or contemplative practice, as well as a reticence to engage in practices of religious descent (Shonin, Van Gordon, Slade & Griffiths, 2013). However, working in its favour is the fact that relative to some religions, Buddhism appears to be less worship or tenet-driven and seems to be more accurately described as a philosophy or a system of fluid ideas (Van Gordon et al., 2013). In any event, BDIs are predominantly delivered in secularised format that renders issues relating to religiosity somewhat redundant. Furthermore, qualitative studies suggest that BDIs represent acceptable interventions for clinical samples (e.g., Williams, McManus, Muse & Williams, 2011).

Although there is growing evidence for the clinical utility of compassion meditation, the risk of 'compassion-fatigue' (Yoder, 2010) should not be over-looked. For this reason, prior to engendering a more compassionate outlook, Buddhist practitioners first (or concurrently) train in cultivating emotional stability within themselves (Khyentse, 2007). Similar issues arise from the therapeutic utilisation of the Buddhist concepts of non-self, emptiness, and imperma-

nence that are subtle, complex, and somewhat tangential to conventional Western thought. Rather than a more data-driven or academic understanding, Buddhism emphasises the need for ‘intuitive understanding’ or realisation as the product of regular meditation practice sustained over many years (or decades) (Shonin, Van Gordon & Griffiths, 2013). There are therefore risks associated with constructs such as non-self (Michalon, 2001) that if misunderstood (or incorrectly taught), could easily accentuate any avoidance/escapism strategies or give rise to defeatist, nihilistic, and/or psychosocially maladaptive beliefs. Due to the subtlety of such teachings, additional care may be required prior to considering such techniques as viable treatment options for problem gamblers with severe reality-distortion complexes and/or cognitive impairment.

There are also implementation issues that relate to the inadequate provision of both problem gambling interventions and BDIs by service providers. For example, only 3% of the 327 Primary Care Trusts, Foundation Trusts, and Mental Health Trusts in the United Kingdom actually provide a service (specialist or otherwise) for treating people with gambling problems (Rigbye & Griffiths, 2011). Likewise, only 20% of general practitioners report being able to access mindfulness-based interventions for their patients (Mental Health Foundation, 2010).

The poor availability of dedicated treatments for problem gambling is likely to be one reason (amongst many others) why problem gamblers often resort to online therapies. Although there are various issues associated with online therapies for problem gambling (Griffiths & Cooper, 2003), there is some evidence that supports their effectiveness (Monaghan & Blaszczynski, 2009; Wood & Griffiths, 2007). Furthermore, the relative cost-effectiveness of online approaches makes them attractive to service providers (Griffiths & Cooper, 2003). Consistent with the growing popularity and operationalisation of internet-based interventions, mindfulness training is now also available in online formats (e.g., Gluck & Maercker, 2011) and may prove to be an acceptable intervention for problem gamblers who prefer to avoid traditional face-to-face therapeutic modalities.

CONCLUSIONS

In the last five years, there has been growing scientific interest into the potential applications of BDIs for the treatment of problem gambling. Research has primarily focussed on mindfulness approaches that operate via a mechanism of ‘urge surfing’ and the non-reactive present-moment awareness of mental urges. Although it appears that mindfulness can play an important role in ameliorating problem gambling symptomatology, findings are limited to a small number of cross-sectional studies and clinical case studies. As an adjunct to mindfulness, other Buddhist-based practices may also be particularly suited for the treatment of problem gambling. These include (i) insight meditation techniques (e.g., meditations on ‘emptiness’) to overcome avoidance and dissociation strategies, (ii) ‘antidotes’ (e.g., patience, impermanence, etc.) to attenuate impulsivity and salience-related issues, (iii) loving-kindness and compassion meditation to foster positive thinking and reduce conflict, and (iv) ‘middle-way’ principles and ‘bliss-substitution’ to reduce relapse and temper withdrawal symptoms. Consistent with recommendations to adopt an eclectic approach to studying addic-

tive processes (Griffiths, 2005), BDIs may also have application for the treatment of other forms of behavioural addiction (e.g., gaming addiction, sex addiction, exercise game addiction, etc.). However, in addition to an absence of large scale controlled treatment studies, a number of other factors may impede the successful operationalisation of BDIs as effective treatments for problem gambling and other forms of behavioural addiction. Of particular note are issues relating to the competence and experience of BDI clinicians and facilitators as well as the poor provision by service providers of both BDIs and dedicated problem gambling interventions. Preliminary findings for BDIs as problem gambling treatments are promising, however, further research is required.

REFERENCES

- Appel, J. & Kim-Appel, D. (2009). Mindfulness: Implications for substance abuse and addiction. *International Journal of Mental Health Addiction*, 7, 506–512.
- Asanga (2001). *Abhidharma Samuccaya: The compendium of the Higher Teaching (philosophy)*. (S. Boin-Webb & W. Rahula, Trans.) Berkeley: Asian Humanities Press.
- Benson, L. A., Norman, C. & Griffiths, M. D. (2012). The role of impulsivity, sensation seeking, coping, and year of study in student gambling: A pilot study. *International Journal of Mental Health*, 10, 461–473.
- Bien, T. (2006). *Mindful therapy: A guide for therapists and helping professionals*. Massachusetts: Wisdom Publications.
- Blaszczynski, A., McConaghy, N. & Frankoya, A. (1991). Control versus abstinence in the treatment of pathological gambling: A two to nine year follow-up. *British Journal of Addiction*, 86, 299–306.
- Brown, K. W. & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84, 822–848.
- Buddha (2006). *Dhammapada: The essential teachings of the Buddha*. (M. Miller, Trans.) London: Watkins Publishing.
- Buddha (500 BCE/1995). *The long discourses of the Buddha: A translation of the Digha Nikaya*. (M. Walshe, Trans.) Massachusetts: Wisdom Publications.
- Cahn, B. R., Delorme, A. & Polich, J. (2010). Occipital gamma activation during Vipassana meditation. *Cognitive Processing*, 11, 39–56.
- Chah, A. (2011). *The collected teachings of Ajahn Chah*. Northumberland: Aruna Publications.
- Chiesa, A. & Serretti, A. (2011). Mindfulness based cognitive therapy for psychiatric disorders: A systematic review and meta-analysis. *Psychiatry Research*, 187, 441–453.
- Chou, K. L. & Afifi, T. O. (2011). Disordered (pathological or problem) gambling and Axis I psychiatric disorders: Results from the National Epidemiologic Survey on alcohol and related conditions. *American Journal of Epidemiology*, 173, 1289–1297.
- Ciarrocchi, J. W. (2002). *Counselling problem gamblers: A self-regulation manual for individual and family therapy*. San Diego: Academic Press.
- Curry, O. S., Price, M. E. & Price, J. G. (2008). Patience is a virtue: Cooperative people have lower discount rates. *Personality and Individual Differences*, 44, 780–785.
- Dalai Lama (1997). *The Gelug/Kagyü tradition of mahamudra*. (A. Berzin, Trans.) New York: Snow Lion Publications.
- Dalai Lama (2001). *Stages of meditation: Training the mind for wisdom*. London: Rider.

- de Lisle, S. M., Dowling, N. A. & Allen, J. S. (2011). Mindfulness-based cognitive therapy for problem gambling. *Clinical Case Studies, 10*, 210–228.
- de Lisle, S. M., Dowling, N. A. & Allen, J. S. (2012). Mindfulness and problem gambling: A review of the literature. *Journal of Gambling Studies, 28*, 719–739.
- Derezotes, D. (2000). Evaluation of yoga and meditation trainings with adolescent sex offenders. *Child and Adolescent Social Work Journal, 17*, 97–113.
- Dewey Dorje, C., Dudjom Rinpoche, Urgyen Tulku & Nyima Rinpoche, C. (2008). *The great gate: A guidebook to the Guru's heart practice*. (E. Pema Kunsang, Trans.) Kathmandu: Ranjung Yeshe Publications.
- Dudjom, K. (2005). *Wisdom nectar. Dudjom Rinpoche's heart advice*. New York: Snow Lion Publications.
- GamCare (2012). *Annual Review 2011*. London: Author.
- Gampopa (1998). *The Jewel Ornament of Liberation: The wish-fulfilling gem of the noble teachings*. (A. K. Trinlay Chodron, Ed. & K. Konchong Gyaltzen, Trans.) New York: Snow Lion Publications.
- Gilbert, P. (2009). Introducing compassion-focused therapy. *Advances in Psychiatric Treatment, 15*, 199–208.
- Gillespie, S. M., Mitchell, I. J., Fisher, D. & Beech, A. R. (2012). Treating disturbed emotional regulation in sexual offenders: The potential applications of mindful self-regulation and controlled breathing techniques. *Aggression and Violent Behavior, 17*, 333–343.
- Glasser, W. (1976). *Positive addictions*. New York, NY: Harper & Row.
- Gluck, T. M. & Maercker, A. (2011). A randomized controlled pilot study of a brief web-based mindfulness training. *BMC Psychiatry, 11*, 175.
- Gooding, P. & Tarrier, N. (2009). A systematic review and meta-analysis of cognitive-behavioural interventions to reduce problem gambling: Hedging our bets? *Behaviour Research and Therapy, 47*, 592–607.
- Griffiths, M. D. (1996). Behavioural addiction: An issue for everybody? Employee counselling today. *The Journal of Workplace Learning, 8*, 19–25.
- Griffiths, M. D. (2004). Betting your life on it: Problem gambling has clear health related consequences. *British Medical Journal, 329*, 1055–1056.
- Griffiths, M. D. (2005). A 'components' model of addiction within a biopsychosocial framework. *Journal of Substance Use, 10*, 191–197.
- Griffiths, M. D. & Cooper, G. (2003). Online therapy: Implications for problem gamblers and clinicians. *British Journal of Guidance & Counselling, 31*, 113–135.
- Griffiths, M. D., Wardle, J., Orford, J., Sproston, K. & Erens, B. (2010). Gambling, alcohol consumption, cigarette smoking and health: Findings from the 2007 British Gambling Prevalence Survey. *Addiction Research and Theory, 18*, 208–223.
- Griffiths, M. D., Wood, R. A., Parke, J. & Parke, A. (2006). Dissociative states in problem gambling. In C. Allcock (Ed.), *Current issues related to dissociation* (pp. 27–37). Melbourne: Australian Gaming Council.
- Hodge, G. R., Andereck, K. & Montoya, H. (2007). The protective influence of spiritual-religious lifestyle profiles on tobacco use, alcohol use, and gambling. *Social Work Research, 31*, 211–219.
- Hodgins, D. C., Currie, S. R., el-Guebaly, N. & Diskin, K. (2007). Does providing extended relapse prevention bibliotherapy to problem gamblers improve outcome. *Journal of Gambling Studies, 23*, 41–54.
- Hofmann, S. G., Grossman, P. & Hinton, D. E. (2011). Loving-kindness and compassion meditation: Potential for psychological interventions. *Clinical Psychology Review, 31*, 1126–1132.
- Hofmann, S. G., Sawyer, A. T., Witt, A. A. & Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: A meta-analytic review. *Journal of Consulting and Clinical Psychology, 78*, 169–183.
- Howells, K., Tennant, A., Day, A. & Elmer, R. (2010). Mindfulness in forensic mental health; Does it have a role? *Mindfulness, 1*, 4–9.
- Jackson, A. C., Francis, K. L., Byrne, G. & Christensen, D. R. (2013). Leisure substitution and problem gambling: report of a proof of concept group intervention. *International Journal of Mental Health and Addiction, 11*, 64–74.
- Johnson, D. P., Penn, D. L., Fredrickson, B. L., Kring, A. M., Meyer, P. S., Catalino, L. I. & Brantley, M. (2011). A pilot study of loving-kindness meditation for the negative symptoms of schizophrenia. *Schizophrenia Research, 129*, 137–140.
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain and illness*. New York: Delacourt.
- Kelly, B. D. (2008). Buddhist psychology, psychotherapy and the brain: A critical introduction. *Transcultural Psychiatry, 45*, 5–30.
- Kessler, R. C., Hwang, I., LaBrie, R., Petukhova, M., Sampson, N. A., Winters, K. C. & Shaffer, H. J. (2008). DSM-IV pathological gambling in the National Comorbidity Survey Replication. *Psychological Medicine, 38*, 1351–1360.
- Khyentse, D. (2006). *Zurichungpa's Testament*. (Padmakara Translation Group, Trans.) New York: Snow Lion Publications.
- Khyentse, D. (2007). *The heart of compassion: The thirty-seven verses on the practice of a bodhisattva*. London: Shambala.
- Kumar, S. M. (2005). *Grieving mindfully: A compassionate and spiritual guide to coping with loss*. Oakland, CA: New Harbinger.
- Lakey, C. E., Campbell, K. W., Brown, K. W. & Goodie, A. S. (2007). Dispositional mindfulness as a predictor of the severity of gambling outcomes. *Personality and Individual Differences, 43*, 1698–1710.
- Lorains, F. K., Cowlshaw, S. & Thomas, S. A. (2011). Prevalence of comorbid disorders in problem and pathological gambling: Systematic review and meta-analysis of population surveys. *Addiction, 106*, 490–498.
- Lutz, A., Brefczynski-Lewis, J., Johnstone, T. & Davidson, R. (2008). Regulation of the theme neural circuitry of emotion by compassion meditation: Effects of the meditative expertise. *PLoS ONE, 3*(3): e1897, doi:10.1371/journal.pone.0001897.
- Mackenzie, M. J., Carlson, L. E., Munoz, M. & Specia, M. (2007). A qualitative study of self-perceived effects of mindfulness-based stress reduction (MBSR) in a psychosocial oncology setting. *Stress and Health, 23*, 59–69.
- Marlatt, A. G. (2002). Buddhist philosophy and the treatment of addictive behaviours. *Cognitive and Behavioral Practice, 9*, 44–50.
- McCormack, A. & Griffiths, M. D. (2012). Motivating and inhibiting factors in online gambling behaviour: A grounded theory study. *International Journal of Mental Health and Addiction, 10*, 39–53.
- Mehwash, M. & Griffiths, M. D. (2010). Online gaming addiction: The role of sensation seeking, self-control, neuroticism, aggression, state anxiety, and trait anxiety. *Cyberpsychology, Behavior, and Social Networking, 13*, 313–316.
- Mental Health Foundation (2010). *Mindfulness Report*. London: Author.
- Michalon, M. (2001). "Selflessness" in the service of the ego: Contributions, limitations and dangers of Buddhist psychology for Western psychotherapy. *American Journal of Psychotherapy, 55*, 202–218.

- Monaghan, S. & Blaszczynski, A. (2009). *Internet-based interventions for the treatment of problem gambling*. Toronto: Centre for Addiction and Mental Health.
- Nagarjuna (1995). *The fundamental wisdom of the middle way: Nāgārjuna's Mūlamadhymakakārikā*. (J. L. Garfield, Trans.) New York: Oxford University Press.
- Nance-Nash, S. (July 22, 2011). "The High Price of America's Gambling Addiction". Retrieved November 10, 2012, from Daily Finance: <http://www.dailyfinance.com/2011/07/22/the-high-price-of-americas-gambling-addiction/>
- Neff, K. D., Kirkpatrick, K. L. & Rude, S. S. (2007). Self-compassion and adaptive psychological functioning. *Journal of Research in Personality, 41*, 139–154.
- Nhat Hanh, T. (1992). *The sun my heart*. London: Rider.
- Orford, J., Wardle, H. & Griffiths, M. D. (2012). What proportion of gambling is problem gambling? Estimates from the 2010 British Gambling Prevalence Survey. *International Gambling Studies, 13*, 4–18.
- Ortiz de Gotari, A., Aronson, K. & Griffiths, M. D. (2011). Game transfer phenomena in video game playing: A qualitative interview study. *International Journal of Cyber Behavior, Psychology and Learning, 1*, 15–33.
- Parhami, I., Siani, A., Rosenthal, R. & Fong, T. (2012). Pathological gambling, problem gambling and sleep complaints: An analysis of the National Comorbidity Survey: Replication (NCS-R). *Journal of Gambling Studies*, doi: 10.1007/s10899-012-9299-8.
- Parke, A., Griffiths, M. D. & Irving, P. (2004). Personality traits in pathological gambling: Sensation seeking, deferment of gratification and competitiveness as risk factors. *Addiction Research & Theory, 12*, 201–212.
- Parke, J., Griffiths, M. D. & Parke, A. (2007). Positive thinking among slot machine gamblers: A case of maladaptive coping? *International Journal of Mental Health and Addiction, 5*, 39–52.
- Perelman, A. M., Miller, S. L., Clements, C. B., Rodriguez, A., Allen, K. & Cavanaugh, R. (2012). Meditation in a deep south prison: A longitudinal study of the effects of vipassana. *Journal of Offender Rehabilitation, 51*, 176–198.
- Rabjam, L. (2002). *The Practice of Dzogchen*. (H. Talbot, Ed. & Tulku Thondup, Trans.) New York: Snow Lion Publications.
- Rickwood, D., Blaszczynski, A., Delfabbro, P., Dowling, N. & Heading, K. (2010). The psychology of gambling. *InPsych, 32*, 11–21.
- Rigbye, J. & Griffiths, M. D. (2011). Problem gambling treatment within the British National Health Service. *International Journal of Mental Health and Addiction, 9*, 276–281.
- Riley, B. (2012). Experiential avoidance mediates the association between thought suppression and mindfulness with problem gambling. *Journal of Gambling Studies*, doi: 10.1007/s10899-012-9342-9.
- Roth, B. & Stanley, T. W. (2002). Mindfulness-based stress reduction and healthcare utilization in the inner city: Preliminary findings. *Alternative Therapies in Health and Medicine, 8*, 60–66.
- Runreangkulkij, S., Wongtakee, W. & Thongyot, S. (2011). Buddhist Group Therapy for diabetes patients with depressive symptoms. *Archives of Psychiatric Nursing, 25*, 195–205.
- Sahdra, B. K., Shaver, P. R. & Brown, K. W. (2010). A scale to measure nonattachment: A Buddhist complement to Western research on attachment and adaptive functioning. *Journal of Personality Assessment, 92*, 116–127.
- Segal, Z. V., Williams, J. M. & Teasdale, J. D. (2002). *Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse*. New York: Guilford.
- Sharpe, L. (2004). Patterns of autonomic arousal in imaginal situations of winning and losing in problem gambling. *Journal of Gambling Studies, 20*, 95–104.
- Shonin, E., Van Gordon, W. & Griffiths, M. D. (2012). The health benefits of mindfulness-based interventions for children and adolescents. *Education and Health, 30*, 94–97.
- Shonin, E., Van Gordon, W. & Griffiths, M. D. (2013). Meditation Awareness Training (MAT) for improved psychological wellbeing: A qualitative examination of participant experiences. *Religion and Health*, doi: 10.1007/s10943-013-9679-0
- Shonin, E., Van Gordon, W., Slade, K. & Griffiths, M. D. (2013). Mindfulness and other Buddhist derived interventions in correctional settings: A systematic review. *Aggression and Violent Behavior, doi: 0.1016/j.avb.2013.01.002*
- Sumpter, M. T., Monk-Turner, E. & Turner, C. (2009). The benefits of meditation practice in the correctional setting. *Journal of Correctional Health Care, 15*, 47–57.
- Tangney, J. P., Baumeister, R. F. & Boone, A. L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*, 271–324.
- Toneatto, T., Vettese, L. & Nguyen, L. (2007). The role of mindfulness in the cognitive-behavioural treatment of problem gambling. *Journal of Gambling Issues, 19*, 91–101.
- Urgyen, T. (2000). *As it is*. (M. B. Schmidt, K. Moran, Eds. & E. Pema Kunsang, Trans.) Hong Kong: Rangjung Yeshe Publications.
- Van Dam, N. T., Sheppard, S. C., Forsyth, J. P. & Earleywine, M. (2011). Self-compassion is a better predictor than mindfulness of symptom severity and quality of life in mixed anxiety and depression. *Journal of Anxiety Disorders, 25*, 123–130.
- Van Gordon, W., Shonin, E., Sumich, A., Sundin, E. & Griffiths, M. D. (2013). Meditation Awareness Training (MAT) for psychological wellbeing in a sub-clinical sample of university students: A controlled pilot study. *Mindfulness*, doi: 10.1007/s12671-012-0191-5.
- Walsh, J. M., Ciarrocchi, J. W., Piedmont, R. L. & Haskins, D. (2007). Spiritual transcendence and religious practices in recovery from pathological gambling: Reducing pain or enhancing quality of life? *Research in the Social Scientific Study of Religion, 18*, 155–175.
- Wardle, H., Moody, A., Spence, S., Orford, J., Volberg, R., Jotangia, D., Griffiths, M. D., Hussey, D. & Dobbie, F. (2011). British Gambling Prevalence Survey 2010. London: The Stationery Office. (2011). *British Gambling Prevalence Survey 2010*. London: National Centre for Social Research.
- Wells, A. (1997). *Cognitive therapy of anxiety disorders: A practice manual and conceptual guide*. Chichester: Wiley.
- Williams, M. J., McManus, F., Muse, K. & Williams, J. M. (2011). Mindfulness-based cognitive therapy for severe health anxiety (hypochondriasis): An interpretive phenomenological analysis of patients' experiences. *British Journal of Clinical Psychology, 50*, 379–397.
- Winters, K. C., Specker, S. & Stinchfield, R. S. (2002). Measuring pathological gambling with the diagnostic interview for gambling severity (DIGS). In J. J. Marotta, J. A. Cornelius & W. R. Eadington (Eds.), *The downside: Problem and pathological gambling* (pp. 143–148). Reno, NV: University of Nevada-Reno.
- Wood, R. A. & Griffiths, M. D. (2007). A qualitative investigation of problem gambling as an escape-based coping strategy. *Psychology and Psychotherapy: Theory, Research, and Practice, 80*, 107–125.
- Wood, R. A., Gupta, R., Derevensky, J. L. & Griffiths, M. D. (2004). Video game playing and gambling in adolescents. *Journal of Child & Adolescent Substance Abuse, 14*, 77–100.
- Yoder, E. (2010). Compassion fatigue in nurses. *Applied Nursing Research, 23*, 191–197.