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Abstract

Objective. The question addressed in this paper is: "Are activities that are classified as 'addictions' and 'impulse-control disorders' occupations?" *Background*. Current conceptualisations of occupation focus on positive contributions to health and well-being. We suggest that occupations are neither inherently healthy nor unhealthy but are associated with positive and/or negative consequences. *Methods*. Integrative and interpretative literature syntheses were undertaken. *Findings*. Findings demonstrated that activities classified as addictions and impulse-control disorders meet the criteria of occupation, in that they give meaning to life; are important determinants of health, well-being and justice; organize behaviour; develop and change over a lifetime; shape and are shaped by environments and have therapeutic potential. *Conclusion*. The findings have implications for the conceptualization of occupations, including the relationship between occupation and health, the potential risk for negative consequences through occupational engagement, a deeper exploration of occupational patterns and performance and the influence of context. Finally, a potential role for occupational science in the field of addictions and impulse-control disorders is proposed.

Keywords

occupational science, addiction, impulse-control disorders, substance use, occupational patterns

Introduction

A selected literature review and synthesis was conducted to address the question: "Are activities that are classified as 'addictions' and 'impulse-control disorders' occupations?" Multidisciplinary research and theories pertaining to addictions and impulse-control disorders were analysed in relation to criteria defining occupation. The findings have important implications for determining the scope and roles of occupational science. The authors are not aware of other publications that systematically present a conceptualisation of addictions and impulse-controls disorders as occupations.

This research was framed as pertinent to two interrelated issues of importance to occupational science. Firstly, are occupations *only* those activities that optimise health, or can activities that are typically considered "unhealthy" also be classified as occupations? Secondly, does participation in occupations always contribute unambiguously to health and well-being?

While occupations have been defined as "everything that people do to occupy themselves" (CAOT, 2008, p. 24), conceptualisations of occupation have typically emphasised positive correlations to health and well-being (see Townsend & Polatajko, 2007; Wilcock, 2007; World Federation of Occupational Therapists, 2004). The Canadian Association of Occupational Therapists (CAOT) (2008), for example, asserted that "[h]ealth flourishes when people's occupations give meaning and purpose to life and are publicly valued by the society in which they live" (p. 25). Yet engagement in some activities may become problematic for some individuals. In anticipation of the publication of the fifth edition of the Diagnostic and Statistical Manual (DSM-V) in 2013, an abundance of literature is available regarding proposed conceptualisation and classification of "disordered" patterns of activity engagement, as presented in Table 1. What is unique about the current situation is that there is a shift from identifying

engagement in activities that were, in and of themselves, considered socially deviant and "pathological" or "disordered" (e.g., paedophilia, injection drug use, pyromania) toward a classification of problematic engagement in activities that are a part of the social fabric of our lives. These activities include but are not limited to gambling, sex, Internet use, shopping, substance use, eating, work and exercise.

At the same time, occupations viewed by society as inherently "unhealthy" may have positive effects for an individual. Excessive alcohol use may be associated with injury and chronic illness, as well as relaxation and social engagement (Csiernik & Rowe, 2003). Potential individual benefits of substance use are evident in this excerpt:

> D.'s first experience with opiates came at age twelve…. Morphine helped her dull the emotional pain and feel better about herself…. Using opiates facilitated success in the job [as a ballroom dance instructor] by dulling the physical pains from standing on her feet for twelve-hour shifts…. [Later] [a]voiding withdrawal became the most important purpose of the day. Once opiates were in her system, D. could relax and be normal, function at home and work. (Perry & Krupa, 2007, p. 32)

Given a lack of consensus in the literature regarding diagnostic classification and terminology, the term "addictions and impulse-control disorders" was used in this paper to refer to the activities listed in Table 1. The terms "activity" and "occupation" were used interchangeably to reflect the undefined inclusion of certain activities as "occupations."

TABLE ONE HERE

Objectives

The objectives were to consider whether the activities associated with classifications of addiction and impulse-control disorders met the definition of an "occupation" and to propose potential implications of the findings to the conceptualisation of occupations.

Methodology

Design

The research design was a selected literature review and synthesis. A combination of integrative (Anthony & Jack, 2009; Dixon-Woods, Agarwai, Jones, Young, & Sutton, 2005; Whittemore & Knafl, 2005) and interpretative (Dixon-Woods, et al., 2005) approaches was applied. An integrative approach facilitates utilisation of literature and analysis for the purpose of developing a more comprehensive understanding of a particular phenomenon (Anthony & Jack, 2009). An interpretative analysis was undertaken to explore the potential implications of integrating the concepts of addictions and impulse-control disorders with occupational theory. An interpretative synthesis is concerned with the development of concepts to advance theory development, and it involves a "form of creative process where new constructs are fashioned by identifying related concepts in the original studies, then reworked and reformulated to extend theory" (Dixon-Woods, et al., 2005, p. 47).

Literature published in English was reviewed pertaining to addictions and impulse-control disorders in general, with a focus on gambling, sexual addiction, Internet use disorders, compulsive shopping, substance use disorders, eating disorders, workaholism and exercise addiction. Although these activities may be considered distinct for diagnostic and categorical purposes, this paper drew on the commonalities that allow them to be considered collectively, as described in Table 2. The DSM-IV-TR (2000) criteria for substance dependence and pathological gambling were listed alongside the proposed criteria for an inclusive definition of

addiction proposed by Griffiths (2005a) and used by Hollander & Stein (2006) in relation to a proposed understanding of impulse-control disorders. These activities were selected in the light of two criteria: they had been proposed for potential inclusion of a diagnosis of addiction or impulse-control disorder, and the activities can be performed in socially acceptable ways (e.g., prescription medication (substance use) and lottery (gambling). The literature was varied (discussing such things as etiology, comorbidity, psychosocial factors, diagnosis, treatment and phenomenology) and multidisciplinary (concerned with nursing, psychiatry, neurobiology, sociology, information technology and consumer behaviours).

TABLE TWO HERE

Method

The integrative synthesis was structured by collecting and organising data into themes corresponding to the criteria of occupation provided by Townsend & Polatjko (2007), which were also located in the CAOT Code of Ethics (CAOT, 2007). These themes included:

1. Occupation gives meaning to life.
2. Occupation is an important determinant of health, well-being and justice.
3. Occupation organises behaviour.
4. Occupation develops and changes over a lifetime.
5. Occupation shapes and is shaped by environments.
6. Occupation has therapeutic potential.

Essentially, the question asked within each theme was: "Is there evidence that addictions and impulse-control disorders satisfy this criteria of occupation?" In this paper, the notion that "occupation has therapeutic potential" was interpreted broadly to mean engagement in an activity

which had the potential to enhance health and well-being, outside the guidance of a health professional.

Electronic database searches were conducted using CINHAL, SocIndex and PsychInfo. Search terms that corresponded to each theme were selected. For example, the terms "meaning," "health," "course of" and "culture" were used in combination with the terms "addiction," "impulse-control" and the variant terms for the individual activities as they appeared in the title, abstract or as a keyword. A search of "health" and "meaning" in combination with "occupation" was also conducted to develop a more in-depth understanding of the current conceptualisations of occupations. Articles were located in peer-reviewed journals, but not otherwise scrutinised for levels of rigour. Addiction reference texts were consulted (i.e., regarding pharmacology and diagnostic criteria), and articles or authors that were referenced frequently in the literature as significant to the conceptualisation of addictions and impulse-compulsion disorders were sought.

The literature was selected within two primary categories:

A) Theoretical and conceptual texts and articles addressing addictions and impulse-control disorders and published between 2000 and 2009.
B) Articles, published between 2000 and 2009, that provided descriptive accounts of individuals who had experienced pathological gambling, sexual addiction disorders, Internet use disorders, compulsive shopping, substance use disorders, eating disorders, workaholism or exercise addiction.

Literature was selected if it contained excerpts that demonstrated high relevance to one of the themes. Given the vast amount of research in these areas, the scope of this paper and word limits for journal publications, thematic saturation was not sought. Within each theme, at least one reference that provided a personal account was selected. Articles that did not address one of

the themes were excluded. In total, fifty-nine articles were used in the literature review. An overview of the articles relevant to the six themes is listed in Table 3.

In this paper, "substance use" was defined as any chemical substances that can cross the blood-brain barrier to alter brain function, including perception, mood, consciousness, cognition and action. This included illicit and licit drugs, hard and soft drugs, designer drugs, club drugs, pharmaceutical and psychotropic medication, psychedelic plants, alcohol and tobacco. The term "eating disorders" was primarily considered in relation to "overeating" and "binge eating."

TABLE THREE HERE

Findings

The six themes corresponding to the criteria of occupation, as suggested by Townsend & Polatjko (2007), were explored.

Occupation gives meaning to life

"[N]o matter how addicted a person is, his or her behavior can still be understood as meaningful and goal-directed*."* (Graham, Young, Valach, & Wood, 2008, p. 124)

The meanings of addictions and impulse-control disorders were consistent with the theory that each occupation holds potential for multiple meanings and is influenced by social and individual processes, from which individuals derive distinct, personal meaning (Hannam, 1997; Leufstadius, Erlandsson, Björkman, & Eklund, 2008). Social constructions of meaning were described in regards to work, which could elicit joy, fulfilment and sense of purpose, be a primary source of self-identity and self-validation (Chamberlin & Zhang, 2009) and facilitate participation in society. Meanings associated with shopping included regulation of emotions, achieving a social standing and reaching an ideal self represented by the symbolic meaning of the material good (Dittmar, 2005; Neuner, Raab, & Reisch, 2005). A perception was reported

that “shopping (buying) will change a person’s life by conferring happiness on the individual” (Lee & Mysyk, 2004, p. 1712).

Shared meanings have been perceived to occur within social groups and cultures. Women have been found to be more likely than men to use psychotropic medications and to use them long-term (Morissette & Dedobbeleer, 2003). Psychotropic medications were postulated to act as a legal “resource that is available to a person in managing everyday life activities and in assisting decision-making processes” (Morissette & Dedobbeleer, 2003, p. 187).

Individual accounts demonstrated that participating in the activity could itself provide a sense of meaning to life. Alternatively, meaning was sometimes described in relation to a component of the activity, such as a sense of challenge and satisfaction, as exemplified by a person who played a multi-player Internet game to a degree he considered “excessive”:

> The difficulty only made my accomplishments more satisfying…. every accomplishment was my accomplishment, and every accomplishment brought true satisfaction. (Chappell, Eatough, Davies, & Griffiths, 2006, p. 208)

One Maltese university student who was identified as a “compulsive buyer” reported that shopping could elicit immediate, though temporary, elation:

> It’s like non-stop. I’m like on batteries, I keep running, running and running and I feel so excited when I see the new things and I run from one side to the other this is nice, this is nice, this is nice … I feel so happy and I feel like I’m flying. (Clark & Calleja, 2008, p. 645)

Meaning was demonstrated when an activity attained a central significance in a person’s life, or was intertwined with the person’s sense of identity. The meaning of substance use was illustrated by an interview participant who explained that “when I quit taking drugs, I had a

tremendous identity crisis. 'Who am I?' Because when taking drugs I was somebody. But without them, I was nothing, I didn't exist" (Wiklund, 2008, p. 2430). Centrality of meaning was reported by a group of individuals designated as "at risk" for exercise addiction, who strongly agreed with the statement that exercise was the most important thing in their lives (Warner & Griffiths, 2006). The meaning of exercise was to enhance mood, to manage stress, to obtain a sense of escape and to feel a natural "high." Positive meaning(s) of exercise could override the negative consequences, such as pain and injury. Another student identified as a compulsive buyer described shopping as giving meaning to her life because,

> My life is so boring at the moment … just to have that momentary thrill buying something small being happy with something for just a few minutes. (Clark & Calleja, 2008, p. 645)

Occupation is an important determinant of health, well-being and justice

Health

One way to understand the notion that occupation is a "determinant of health" is that occupations *contribute to* health, well-being and justice. Polatajko, et al. (2007) supported the perspective that "occupation is as necessary to life as food and drink" (Dunton, as cited in Polatajko, et al., 2007, p. 14) and "anything that reduces a person's ability to engage in occupation has the potential to negatively impact the health of the individual" (p. 20). An alternative interpretation is that determinants of health are factors that *influence* health, such as poverty, social exclusion, unemployment and poor housing (World Health Organization, 2008). Given the complexity of the human body and social structures, a single occupation can *simultaneously* have positive and negative effects on health (Creek & Hughes, 2008).

Potential negative consequences associated with addictions and impulse-control disorders include physical health problems, neglect of self-care occupations, loss of job, injury, involvement in illegal activities, deterioration of social relationships and a decline in personal finances. Diagnoses of addictions and impulse-control disorders are essentially defined by the experience of negative consequences (American Psychiatric Association, 2000; Hollander, Baker, Kahn, & Stein, 2006). Positive contributions of addictions and impulse-control disorders to health and well-being include enjoyment, social engagement and stress relief, and are addressed more thoroughly in the section below under the heading "Occupation has therapeutic potential."

For an individual who has used substances for a long period of time, be it nicotine, caffeine or prescription medications, anxiety and thoughts about withdrawal effects can be emotionally intense (Graham, et al., 2008). Withdrawal effects can accompany reduced participation in activities, such as gambling (Pallanti, Rossi, & Hollander, 2006), exercise (Allegre, Souville, Therme, & Griffiths, 2006) and Internet use (Griffiths, 2000a). Within the context of immediate situations, the short-term need to maintain mental and physical health by continued substance use can sometimes outweigh the long-term health and social consequences of quitting. Sudden withdrawal from barbiturates, which are prescription drugs, can result in seizures, delirium, high body temperature and death (Brands, Sproule, & Marshman, 1998).

Well-being

Addictions and impulse-control disorders may form a central aspect of the experience of well-being. In a narrative description of heroin use, one woman expressed impaired well-being, stating:

Sometimes I shoot up and I'm sure it's gonna be the last time… But I wake up all sick

> and life for me . . . [pause] it doesn't stop. Even when it should, you know? There's no reason to live a life like this. Not one like this. (Garcia, 2008, pp. 731-732)

Well-being may also be negatively impacted by the presence of stigma. One person explained:

> You know, we [opiate addicts on methadone treatment] are the scum of the earth to them people that write them books, and we are somebody! And the average one of us are intelligent people. You know, if they was to stop and try to learn, you know, sit down and try to talk to us instead of judging us, we would all be better off. (Conner & Rosen, 2008, p. 252)

Justice

The notion of justice is particularly relevant in regards to addictions and impulse-control disorders. It has been argued that "addiction does not reside in drugs; it resides in human experience" (Decorte, 2001, p. 299). Similarly, negative consequences do not reside in substances and are not inherent in activity; rather, the experience of negative consequences is largely correlated with social marginalisation and oppression (Csiernik & Rowe, 2003). The experience of severe negative consequences from substance use, for example, is higher for vulnerable populations, including individuals with a lower socioeconomic status, individuals who have a mental health diagnosis and "minority" populations (Centre for Addiction and Mental Health, 2001; Etienne, 2003; Kimberley & Osmond, 2003; Kwok, 2003; Shaffer & Korn, 2002). In the United States, African Americans are significantly overrepresented in the criminal justice system, indicating inequities in the enforcement of drug policies (Singer, 2008). Secondly, it has been proposed that certain cultural and political factors facilitate or encourage engagement in addictions and impulse-control disorders. It was proposed that addiction is an endemic result of globalisation, which creates a sense of cultural dislocation (Alexander, 2000).

In Western society, patriarchy, hierarchy and capitalism have been posited to "create, encourage, maintain and perpetuate addiction and dependence" (Kasl, in Csiernik & Rowe, 2003).

Occupation organises behaviour

This theme unveiled two interrelated ways in which addictions and impulse-control disorders can influence the organisation of behaviour. Firstly, a defining criterion of addictions and impulse-control disorders is an increase in the amount of time spent engaged in or thinking about the occupation. This includes time spent to obtain access to the activity and to recover from after effects. Online game players (or 'gamers') were found to spend an average of between 22.4 and 25 hours per week playing games, some playing more than 50 hours per week (Chappell, et al., 2006). As more time is allocated towards one occupation, other occupations may be sacrificed. For example, children who play videogames may spend less time engaged in sports or educational pursuits. Some people reported gaming for more than 12 hours a day, neglecting other daily occupations. William Burroughs (1982) addressed an altered relationship to time, using the metaphor of "junk time," stating, "[The addict's] body is a clock and the junk runs through it like an hour-glass. Time has meaning for him only with reference to his need. Then he makes his abrupt intrusion into the time of others and [. . .] he must wait, unless he happens to mesh with non-junk time" (as cited in Hughes, 2007, p. 685).

Secondly, from an occupational science perspective, participation in the addiction or impulse-control disorder "becomes central for [the person's] 'doing', becoming a central meaningful occupation" (Helbig & McKay, 2003, p. 141). As a single activity increases in prominence in the person's life, other activities may be overshadowed and devalued. One person who used crack stated "an addict that smokes crack, all you think about, all you do is think about

dope, all twenty-four hours and seven days a week. It's twenty-four-seven. It doesn't stop" (Trujillo, 2004, p. 182). Another man described that:

> It does happen to me loads of times, even down to my kids. I'm not going to court today to pay my council tax because I want to hang out and get high, you know. I'm not going down to my kids tonight because I want to see my friend and get drunk with him. Or I'd be high and think, shit, I'm supposed to leave now to pick the kids up, or leave now and visit the doctors . . . and I think, I won't bother, you know what I mean? (Gibson, Acquah, & Robinson, 2004, p. 604)

Individuals with disordered eating often organise their behaviour around food, such as eating only eat food with a certain brand name or prepared following a particular ritual (Dungan, 2005). Food may be mood-altering and associated with specific moods, which may be a factor in food choices (Power, 2005). Chewy substances that require strong jaw movement may be consumed by someone who is angry, sugar and caffeine may stimulate and enhance mood, heavier foods are eaten to assuage feelings of loneliness, and a total restriction of food consumption can provide a perception of power (Power, 2005). The absence of opportunities to consume foods in desired ways is associated with symptoms of anxiety, distress and depression.

Exercise can be associated with precise routine and structure (Allegre, et al., 2006; Cox & Orford, 2004). A distinction has been made that "committed exercisers organize exercise [a]round their lives, while dependent exercisers organize their life [a]round exercise" (Allegre, et al., 2006, p. 635). One man who met the criteria for exercise dependence described that exercise was:

> Like any routine. . . you get locked into it and stop thinking about it. . . my whole family know that I get up with the kids on a Sunday morning, give them their breakfast and then

go for a run… that's what I do." (Cox & Orford, 2004, p. 178)

An on-line gamer described his activities of daily living after two years of playing online games. He had lost his job and his wife moved out, taking their two daughters.

> All that mattered to me was playing the game. I didn't even bother to brush my teeth in the morning nor did I take a bath or shower, much less shave. I didn't do my laundry and never wore clean cloths [sic]. Most of the time I would keep on the same clothes that I had slept in and wore the day before. I didn't clean my house either and dirty dishes were all over the place and I never took out the trash. (Chappell, et al., 2006, p. 209)

Work can have a similar impact, with some people working more than 110 hours per week (Carnes, Murray, & Charpentier, 2005). In an autoethnography, David Boje, a university professor, explained that "being a workaholic means I push family relationships and all manner of leisure to the margins in my daily patterns" (Boje & Tyler, 2009, p. 178).

One person described that her desire to shop took precedence over her commitment to attend class, stating "I wanted to buy a coat so badly that I even left from the lesson and went to buy the coat" (Clark & Calleja, 2008, p. 643).

One woman interviewed about past gambling explained that:

> Gambling was all a big lie and now I know that because I have found other things to occupy my time. I have found that I enjoy reading more, I go to the park; take walks, things like that. I have my freedom and you don't realize that until you lose it. (Nixon & Solowoniuk, 2006, p. 127)

Occupation develops and changes over a lifetime

"Patterns of drug use and perceptions of control of drugs are dynamic in nature and a product of particular situations, contexts, events, time periods, and drug use career transitions" (Decorte, 2001, p. 297).

Engagement in addictions and impulse-control disorders changes over time and follows a unique pattern for each person. Certain population trends can be seen, such as the trend for heavier alcohol and substance use among young people. Evidence supporting this is that 75 percent of people who met the criteria of substance dependence or abuse at some point in their life reported no symptoms by the age of 37 years (Heyman, 2009). This theme explored factors associated with changes in the degree of engagement in addictions and impulse-control disorders.

Tolerance and withdrawal are neurological and physiological processes related to a change in occupational engagement over time (Gutman, 2006; Schmitz, 2005). Tolerance means that an increased amount of engagement in the occupation is needed (e.g., an increased dose of a drug, betting a larger amount of money or running a greater distance) to obtain the anticipated, or desired, level of satisfaction. Avoidance of withdrawal symptoms can also affect patterns. Abstinence from exercise has been associated with withdrawal symptoms within 24 to 36 hours after not exercising, including increased anxiety, restlessness, irritation and impaired sleep (Allegre, et al., 2006). Symptoms are alleviated by resuming the activity. Purposeful interactions between addictions and impulse-control disorders may be introduced over time. Combinations of activities, such as cocaine and masturbation, can increase the intensity of the experience (Carnes, et al., 2005). Alternatively, when one activity is reduced, another may be substituted or increased, as evidenced by one woman who alternated between overeating and high risk sex (Carnes, et al., 2005).

Some people reduce/cease participation independently, some receive support from family or friends (Prins, 2008; Scarscelli, 2006), and some require assistance from health practitioners. It was reported that 77 to 82 percent of individuals who overcame alcohol use problems for a year or more did so independently, even though formal treatment may have been unsuccessfully attempted (Granfield & Cloud, 2001). Terms used to describe this phenomenon include natural recovery, maturing out and spontaneous remission. A Canadian study found that 82 percent of alcohol abusers overcame problems without counselling or Alcoholics Anonymous (Sobell, Sobell, Toneatto, & Leo, 1993). Scherbaum & Specka (2008) reported that, for people who used opiates and did not seek treatment, the median time to discontinue use independently is after six years of using, indicating that participation in the occupation tended to be discontinued over time. This area of research is emerging, with increased recognition that natural recovery is an important and significant phenomenon (Sobell, et al., 1993).

Methadone maintenance is a harm reduction strategy for people who have experienced difficulty quitting other opioids (Järvinen, 2008). It involves a medical prescription of methadone, a longer-acting opioid, which prevents the experience of cravings and withdrawal symptoms from the effects of a faster-acting drug, such as heroin. Change in engagement is determined not only by the physiological effects of the activity on the body, but also by social, legal and medical factors, as well as personal choices. In a qualitative study, several methadone users expressed an ambiguous relationship with using methadone. On one hand, methadone was a legal option that enabled performance of other occupations. As explained by one user: "Methadone helps me take care of my things, my home for instance (. . .) It helps me take care of myself" (Järvinen, 2008, p. 985). On the other hand, methadone was effectively seen to substitute one chemical dependence for another (Järvinen, 2008). One methadone user said:

> You can never quit methadone. With heroin we all know that it takes a week and then it's over. But with methadone it takes three months or half a year. I have heard about people who haven't slept for a month, honestly. Methadone withdrawal makes you go crazy. (Järvinen, 2008, p. 985)

Occupation shapes and is shaped by environments

"… 'addiction' is 'a set of ideas which have a history and a cultural location'" (Room, 2004, as cited in (Reinarman, 2005, p. 310).

The social, cultural, physical, political and historical contexts influence participation in occupation. The literature revealed several ways that the context, or environment, is related to occupational engagement, including: (a) shaping which occupations are perceived as acceptable, (b) shaping values, expectations and desires , which influence the selection of occupations, (c) setting limits and boundaries around occupations, and (d) affording or limiting access to participation.

There are contextual factors that influence the acceptability of occupations. For example, in the Muslim culture, alcohol use is forbidden, while in the Catholic context it forms an aspect of the religious practice of communion with God. In the 1600s, drinking water was unsafe, so alcohol was a staple beverage, whereas during times of prohibition in the 1800s the sale of alcohol placed individuals at risk for incarceration. Today in Ontario, the government is involved in the regulation and distribution of alcohol, through the Liquor Control Board of Ontario (LCBO). The meaning associated with alcohol use, and thereby the pattern of consumption, is dependent on context and historicity.

Patterns of occupational engagement "emerge" from the cultural environment. The experience derived from addictions and impulse-control disorders can be a desireable alternative

for the individual. Watkin, Rowe, & Csiernik (2003) suggested there are "oppressive social environments that directly support the need to escape temporarily" (p. 22). Regarding the high prevalence of ketamine use in Hong Kong, it was proposed that, "in a society in which freedom may be increasingly elusive, ketamine's liberating qualities may be particularly attractive" (Joe-Laidler & Hunt, 2008, p. 269).

In North America, being physically attractive, vital and healthy is valued (Adkins & Keel, 2005). These values may be associated with eating disorders and excessive exercise. Exercise can be a means to transform the body towards an ideal body shape and increase self-confidence (Cox & Orford, 2004). Exercise increases physical strength and can contribute to a sense of control and a reduced sense of vulnerability in environments that are perceived as threatening. One woman who met the criteria of exercise dependence viewed exercise as "… a way to strengthen women physically, to strengthen women psychologically and mentally, to increase their self-confidence, to increase their self-esteem, to increase their ability to look after themselves generally" (Cox & Orford, 2004, p. 176). One student said: "I sort of get the feel a lot especially after I've read some fashion magazine . . . Oh I need to buy something like that, you know what I mean, hekk, I think I have to go shopping" (Clark & Calleja, 2008, p. 646).

Ease of access to activities that have the propensity to be associated with negative consequences is correlated with prevalence rates. The Internet permits easier access to sexual opportunities, online games and gambling. The Internet and cultural environment facilitate online relationships, including accessibility, affordability, anonymity, convenience, escape, social acceptability, long working hours and a variety of types of relationships available (Griffiths, 2000b). It is reported that one of the major uses of the Internet is to access pornography, and sex accounts for 69 percent of all spending on the Internet (Griffiths, 2000b).

One man described that:

> "Cybersex addiction comes from the *ease* at which a person who *already* has a sex addiction can access anything and everything sexual that one can imagine…There is almost total safety…It's cheap…It's convenient…It can and will feed *any* fantasy, some that you didn't even know existed." (Schneider, 2000, p. 258)

Factors associated with high rates of shopping are easy access to credit (Lee & Mysyk, 2004) and increased opportunities through the Internet (Raab & Neuner, 2006, October). The social prominence of gambling was described by an individual describing a relapse: "it started by entering a little contest, flipping the lid from inside a pop cap, or other little forms of gambling that before I didn't realize were gambling. For example, I go to the bank to pay a bill and they have a draw to win this camera…" (Nixon & Solowoniuk, 2006, p. 125).

It is suggested that Western society has created an expectation for individuals to experience fun and pleasure (Starace, 2002). There is a cultural "over-estimation of material goods in definition of the self" (Starace, 2002, p. 21) and consumerism reduces the time between desire and the fulfilment of desire, for a pleasure that is short-lasting. A person who had quit gambling expressed ambivalence regarding a desire to obtain modern goods that would impress others. "I'm happy with what I have. I not totally happy with what I have, I would like to have a little bit more, but I'm satisfied with what I got right now and I can work towards getting other stuff I need" (Nixon & Solowoniuk, 2006, p. 128).

One way to understand contemporary perspectives of deviant behaviours is in relation to the neo-liberal values of autonomy, freedom and choice (Reith, 2004). Sex, gambling, compulsive shopping, alcohol use and eating disorders have been described as consumption-

related activities, and addictions were defined by a loss of individual control over consumer behaviours.

Occupation has therapeutic potential

Addiction and impulse-control disorders embody desired and possibly therapeutic effects,. Tobacco leaves have antidepressant properties by releasing monoamine oxidase selective inhibitors (MAOIs), which are inhaled (Khalil, Davies, & Castagnoli, 2006). Licit and illicit drugs can reduce social anxieties and inhibitions. A shopping trip may be exhilarating. Underlying benefits of sexual addiction were reported to include alleviating boredom, sadness, loneliness or low self-esteem and enhancing feelings of being wanted, desirable, alive or powerful (Giugliano, 2006). Some forms of gambling can enhance memory skills, problem-solving skills, mathematical proficiency, concentration and hand-eye coordination (Shaffer & Korn, 2002), and older adults who gamble recreationally are reported to have better health in general (Pantalon, Maciejewski, Desai, & Potenza, 2008).

Internet use may modulate negative moods (Morahan-Martin, 2005), and, for people who are extroverted, increased use of the Internet was associated with "increased sense of well-being, including decreased levels of loneliness, decreased negative affect, decreased time pressure and increased self-esteem" (Kraute et al., as cited in Morahan-Martin 2005, p. 42). Multi-user domains (multi-player online games, where individuals assume an identity and interact directly with other players) were thought to "offer a unique way to work through developmental issues related to identity, sexuality, intimacy, separation and other issues" (Morahan-Martin, 2005, p. 44).

Exercise can result in decreased mortality rates, increased bone-mineral density, management of chronic illnesses, including hypertension, diabetes, coronary artery disease,

dyslipidemia, depression, osteopenia and osteoporosis, and prevention of hypertension, diabetes and cardiovascular disease (Joy, Van Hala, & Cooper, 2009). One respondent reported the link between well-being and exercise as follows:

> So if I'm doing something (exercising) I just feel better. . . (I can be) very low in myself… but once I start exercising again it's fine, I feel. . . well better really yeah. . . Cause when I do train it relieves the stress, you know if you're uptight and whatever. . . it just makes you feel. . . It just makes you feel better." (Cox & Orford, 2004, p. 175)

A sense of escape offered through addictions and impulse-control disorders can facilitate coping with difficult circumstances. Combat veterans often experience stress when they return home. It has been found that alcohol, drugs and food are frequently used to cope, and the compulsive use of sex has become more common (Howard, 2007).

Discussion

The findings showed that addictions and impulse-control disorders can give meaning to life, act as an important determinant of health, well-being and justice, organize behaviour, develop and change over a lifetime, shape and be shaped by environments and have therapeutic potential. The data revealed an interrelation between themes. Using an interpretative synthesis, five considerations for the conceptualisation of occupations were proposed, including (a) the relationship between occupation and health, (b) the potential risk for negative consequences through occupational engagement, (c) a deeper exploration of patterns and occupational performance, and (d) the influence of context.

Conceptualising Occupation and Health

Alongside the proposition that occupation is *necessary* for health and well-being (Canadian Association of Occupational Therapists, 2008; Creek & Hughes, 2008; Townsend &

Polatajko, 2007; Wilcock, 2007), not every occupation *enhances* health and well-being. The focus on the health-enhancing properties of occupation may be attributed to modern societal values and definitions of moral character, such that "to be healthy is to be a good person" (Benford & Gough, 2006, p. 428). However, on the basis of the findings, it is suggested that occupations are neither inherently healthy nor unhealthy. Engagement in particular occupations in particular ways, for particular individuals, may be associated with positive and/or negative consequences. Ballet and soccer, for example, are socially acceptable activities that are associated with increased physical endurance, a sense of pride and social cooperation. Ballet is also associated with several long-term negative health consequences, such as injury to the foot, ankle, back, hip or knee, muscle spasm, ligament sprain, tendonitis, nerve damage, dislocation, eating disorders, depression and anxiety (Kelman, 2000). Soccer is associated with head injury (Delaney, Al-Kashmiri, Drummond, & Correa, 2008). This challenges the notion that occupations can definitively be classified as 'healthy', 'unhealthy', 'good' or 'bad'.

Considering occupation as a *determinant* of health and well-being with a potential to be detrimental to health can extend the scope of occupational science both by providing a broader understanding of the nature of an occupation and by encompassing a larger range of occupations. By conceptualising addictions and impulse-control disorders as occupations, the potential positive attributes of the activities are acknowledged. This is not novel in addictions counselling, where clients are routinely asked: "What are the good things about [the activity/substance use]?" and "What are the not-so-good things about [the activity/substance use]?" (Herie & Watkin-Merek, 2006). It may be helpful to consider a spectrum of ways in which occupation and health are interrelated, moving beyond a dualism of "healthy" or "unhealthy." It has been stated that

dualisms imply "a certain neatness that is rarely found in lived life" (Flyvbjerg, 2001, p. 49). One person, who had a history of heroin use, aptly stated this in a self help group he attended:

> We realized that the therapeutic myth of getting better gauged everything based on the presence or absence of drugs, on a scale that in our opinion was not able to appreciate the complexity of our personal paths. (Scarscelli, 2006, p. 263).

Conceptualising Occupation and the Risk for Negative Consequences

There is a social dimension regarding what behaviours or activities pose risk to individual, collective and societal well-being, and these are often discouraged or prevented. Participation in occupations that have "high risk" of negative consequences is often considered problematic and to be avoided (O'Bryne & Holmes, 2007; Willig, 2008). Discourses of risk are used to reify the expectation of individuals to be "calculative, prudent and autonomous" (Reith, 2004, p. 295). In contemporary Western society, it is assumed and expected that rational individuals will strive towards health and longevity (Willig, 2008). The grounds for this assumption are being challenged in health care literature (Betts, 2007; O'Bryne & Holmes, 2007; Willig, 2008). It has recently been acknowledged that the meaning of an occupation may not always be positive (Hammell, 2009; Leufstadius, et al., 2008). Similarly, the purpose of occupational engagement may not always be rational or in the "best interest" of the person.

Interpreting whether an occupation has become problematic for an individual is complex and multifaceted. It has been explained that "the real difference between healthy excessive behaviours and addictions is that healthy behaviours add to life whereas addictions take away from it" (Griffiths, 2005b, p. 98). For example, working 16 hours a day would have different implications for a 23-year-old compared with a 38-year-old who is married and has children (Griffiths, 2005b). An important consideration is that assessing risk involves determining

individual evaluation of consequences and individual perception of risk. For example, absenteeism may be considered to be problematic by one person, whereas, for another, the loss of a job would signify a problem. Similarly, when the first author discussed the option of quitting intravenous drug use with a client, he replied: "Why? So I can go to school? Get a 9-to-5 job? Why would I want that?" Subjective evaluation of acceptable risk is evident at a societal level, as demonstrated by the acceptability of stock-trading, which is a high risk occupation embedded in an unpredictable international market system. While the individual experience of trading stocks may parallel the experience of gambling, the social value and skill involved are perceived very differently.

The perception and identification of negative consequences are related to social, historical, cultural and political factors. It is important to understand how the perception of an activity transitions from "normal" to "high frequency" to "addiction" or "impulse-control disorder." This area deserves careful exploration, since legal, medical and political decisions are based on the perceived severity of problems, their societal impact, the degree of risk associated with participation in occupations, and the classification of what is considered to be an acceptable occupation.

Conceptualising Occupational Patterns and Performance

The theme addressing the ways in which addictions and impulse-control disorders can organise behaviour may be further developed by considering occupational patterns. The notion of occupational patterns has been expanded to introduce aspects of parallel activities and occupational projects (Bendixen, et al., 2006). O*ccupational projects* mean that "every single activity and occupation can provide meaning, purpose and value in relation to an overriding goal" (Bendixen, et al., 2006, p. 8). *Parallel activities* is the term used to describe the fact that

people engage in more than one activity simultaneously (Bendixen, et al., 2006). Parallel activities may be important in regards to addictions and impulse-control disorders, since these activities may become integrated into, or performed simultaneously with, other occupations, such as leisure, work and socialisation. Combining multiple addictions and impulse-control disorders in patterned ways can increase the salience of the addiction (Carnes, et al., 2005) and reinforce the central role of the occupation in the person's life. Occupational projects assume that "an assembly of activities and occupations are interconnected with an overriding meaningful theme, a unifying motivation and goal, and value given by the individual and the social environment" (Bendixen, et al., 2006, p. 8). A broader investigation of occupational projects may allow novel insight into the experience, meaning and purpose of activities that are considered to have negative consequences.

Occupations, occupational performance and occupational patterns occur in constant interaction. A defining feature of addictions and impulse-control disorders is that the person is "preoccupied" with the activity (American Psychiatric Association, 2000) and commits more time towards obtaining, engaging in or recovering from the "effects" of the activity. There is a proposition that a person loses a sense of *choice* to engage in the activity, leading to impaired functioning in daily occupations. Previously meaningful occupations in the person's life may be given up (e.g., employment, self-care, parenting) and others initiated (e.g., theft, prostitution) on the basis of a relationship to the primary occupation of interest. Returning to the example of D., her use of opiates initially helped her to work in spite of physical pain and helped her to feel "normal" in social situations (Perry & Krupa, 2007). As her use increased, D. reported spending "a few hundred dollars a day", so she borrowed and "scammed" money from family, engaged in sex in exchange for money and stole. She neglected personal care activities, stating "I wouldn't

say a lot of people take care of themselves. Once you are completely poor and living a chaotic life, it's very hard to maintain that stuff" (p. 33).

The experience of negative consequences may be mitigated by occupational patterns and the performance of other occupations. People who demonstrated "controlled" use of cocaine were found to have a "multiplicity of meaningful roles", which contributed to a positive identity and provided a "stake in conventional daily life." Terry, a past heroin user, explained the difference between "chaotic" and "maintaining" patterns of drug use (Hughes, 2007) on the basis of the management of finances and resources.

> One is where you're chaotic, it can make you cry, you're sort of like really going off your head and you get into trouble you know you run into the criminal justice system, you're very chaotic with your drug use and things, whereas somebody who maintains a habit, basically what they actually do is they've learnt how to budget their money, budget the drugs, and have got a regular supply so, in that case you can function as a normal human being almost, as long as you've got your regular supply and you're not chaotic with your drug use, so we call it like maintaining your habit basically." (Hughes, 2007, p. 679)

While excessive time use for a particular occupation may be problematic in the context of a person's life, it is also positively associated with the development of expertise and skills that are typically considered desirable. It is reported that "future elite" tennis players, at age thirteen, spend approximately 20 hours per week practicing, and eleven-year-old swimmers practice for 24 to 30 hours per week (Ericsson, Krampe, & Tesch-Romer, 1993). Similarly, the average amount of time that elite violinists spend practicing is approximately 30 hours per week (Ericsson, et al., 1993). Commitment of time to a particular occupation and prioritisation of

certain occupations over others is an aspect of occupational performance that warrants exploration.

Addictions and impulse-control disorders must be understood and investigated beyond increased participation in one activity and as an interrelated pattern of engagement and performance. It is not necessarily the *occupation* that is considered to be problematic, although there may be societal expectations that the *pattern of engagement* fall within certain limits and that the person participate successfully and responsibly in societal *roles*. An occupational perspective will need to apply approaches that consider more than the sequencing of activities or the classification of the occupation. Complex patterns of engagement and performance are evident, and these interactions demonstrate variability in the quality of performance and the contribution to individual, collective and social well-being.

The Influence of Context

Theories have often attributed addictions and impulse-control disorders to individual factors. These include theories of personality, moral behaviour and illness or disease. Occupational science can contribute to the increasing body of literature that acknowledges the context as a significant factor influencing occupational engagement and performance. There are cultural, social and contextual factors that influence emotions, feelings, judgment and decision-making. Of these, "the social environment in particular holds expectations of relevant, appropriate and successful occupational performance" (Bendixen, et al., 2006, p. 6). It has been stated that "decisions are rarely the product of careful reflective analysis, *undertaken in isolation* of the specific milieu or social context in which such a choice presents itself" (Duff, 2007, p. 516). For example, research has shown that, in areas with increased opportunity for legalised gambling, there is a greater prevalence of negative consequences associated with gambling

(Pallanti, et al., 2006).

As described earlier, the occupations and impulse-control disorders addressed in this paper are also consumer products, which are marketed and associated with financial profits. This is not to suggest that all engagement in these occupations is commercial-driven: rather, there are commercial-driven incentives that shape the ways in which the occupations are socially constructed. In Ontario, the provincial government regulates both alcohol sales and lottery and gaming. Part of the mission of the LCBO (Liquor Control Board of Ontario) was stated to be "engaging our customers in a discovery of the world of beverage alcohol" (LCBO, 2010). Similarly, pharmaceutical medications are licensed by Health Canada, and revenue for the 2008-2009 fiscal year was reported to be approximately ninety-two million dollars (Health Canada, 2007). Occupational science may offer insight into the interaction between individual choice and responsibility within contexts of availability, accessibility and prominence of occupations.

Limitations

One of the limitations of this literature review was that we have only explored articles published in English, and they are primarily focussed on North American culture. Interpreting addictions and impulse-control disorders literature from an occupational perspective posed unique challenges. Addiction and impulse-control disorder research focussed on theory, epidemiology, antecedents, consequences, neurological and physiological changes to the body, assessment and diagnostic criteria, potential interventions and the process of "recovery." None of the literature reviewed was informed by occupational science. Therefore, the themes that guided the literature review were not always the primary question of interest in the papers reviewed, and an occupational perspective needed to be applied to interpret the relevance of data and findings.

Research that included first-hand accounts of the *experience* of participation in the addictions and impulse-control disorders was limited. Existing accounts were typically retrospective and follow a period of engagement in therapeutic services, the goal of which may be "re-storying" or the development of new perspectives (Dimaggio, Salvatore, Azzara, & Cantania, 2003). There was also a paucity of literature on "successful" (Perry & Krupa, 2007) or "controlled" (Decorte, 2001) engagement in addiction and impulse-control disorders. Addiction and impulse-control disorders literature was often intended to inform medical and judicial policies and practices and did not focus on the positive features of addiction. There is increasing evidence that "most users of illegal drugs are people who lead a 'normal' life and are able to hide their consumption behavior" (Scarscelli, 2006, p. 240). However, given the social perspective of pathology and deviance, there is an associated stigma and shame, which results in hiding participation from the public eye (Prins, 2008). The notion of "positive addiction" was applied to activities such as knitting and running (Goldsmith & Shapira, 2006), but not extended to an understanding of substance use and impulse-control disorders.

Finally, this research synthesis drew on data derived primarily from peer-reviewed literature. A more comprehensive understanding of addictions and impulse-control disorders from an occupational perspective may be attained through the inclusion of grey literature, including movies, literary works, music, poems, magazines, websites and media accounts. In addition, substances with psychoactive properties not included were sacred plants, traditional medicine, caffeine and inhalants. This was not an intentional exclusion, but rather observed retrospectively.

Implications for Future Research

This literature review and synthesis was intended as an introduction to the possibility of

conceptualising addictions and impulse-control disorders as occupations. At best, it may provide an overview and starting point for future research. There is a need for more in-depth analysis of the nature of addictions and impulse control disorders in regards to each of the themes. Furthermore, this review provided an analysis of addiction and impulse-control disorders as a collective. It may also be important to develop a more in-depth understanding of these occupations as individual and unique.

Secondly, *there is a need for research that integrates scientific inquiry and personal experience,* particularly on that applies qualitative approaches (Neale, Allen, & Coombes, 2005). The meanings of occupations are individualised and socially situated, and the "meaningfulness of an occupation can only be perceived and expressed by the individual who performed the occupation at that point in time and in his or her specific context and life" (Leufstadius, et al., 2008, p. 28).

Thirdly, there is an opportunity *to apply an occupational lens to develop an understanding of how occupations can become problematic* for some people, under some circumstances, when performed in particular ways. Theories of addictions and impulse-control disorders continue to shift, and new perspectives are needed to understand the implications of the increasing number of occupations that are performed in a manner that is defined as pathological and deviant and that are associated with negative consequences. How are occupations determined to be problematic? What can an occupational perspective offer to the conceptualisation of addictions and impulse-control disorders? *How do certain occupations come to take precedence over all other occupations, and continue in spite of harm to health and well-being?* These are intriguing questions. Addictions and impulse-control disorders can improve the understanding of occupation and, at the same time, occupational science can provide a

significant contribution to scientific knowledge regarding addictions and impulse-control disorders.

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Table 1
Literature Conceptualising Activities as Addictions and Impulse-Control Disorders

Disorder	References
Pathological gambling	Lakey, Goodie, Lance, Stinchfield, & Winters (2007)
	Pallanti, Rossi, & Hollander (2006)
	Pantalon, Maciejewski, Desai, & Potenza (2008)
	Shaffer & Korn (2002)
Sexual addiction disorders	Allen & Hollander (2006)
	Carnes, Murray, & Charpentier (2005)
	Griffiths (2000b)
Inter disorders	Douglas, et al. (2008)
	Goldsmith & Shapira (2006)
	Li & Chung (2006)
	Morahan-Martin (2005)
	Shapira, et al. (2003)
	Thatcher, Wretschko, & Fridjhon (2008)
	Widyanto & Griffiths (2006)
Compulsive shopping	Black (2006)
	Clark & Calleja (2008)
	Park, Cho, & Seo (2006)
	Rodríguez-Villarino, González-Lorenzo, Fernández-González, Lameiras-Fernández, & Foltz (2006)
Substance use disorders	American Psychiatric Association (2000)
Eating disorders	Joranby, Pineda, & Gold (2005)
	McElroy & Kotwal (2006)
	Wang, Volkow, Thanos, & Fowler (2004)
Workaholism	Andreassen, Ursin, & Eriksen (2007)
	Burke & Fiksenbaum (2009)
	McMillan, O'Driscoll, Marsh, & Brady (2001)
	Piotrowski & Vodanovich (2008)
Exercise addiction	Allegre, Souville, Therme, & Griffiths (2006)
	Cox & Orford (2004)
	Hausenblas & Downs (2002)
	Warner & Griffiths (2007)

Table 2
Criteria of Addictions and Impulse-Control Disorders

Substance Dependency (DSM-IV-TR)	Pathological Gambling (DSM-IV-TR)	Addiction (Griffiths, 2005a)
3 or more of the following in a 12-month period:	5 or more of the following:	All of the following components must be met:
Tolerance. Increased amounts of substance to achieve desired effect or diminished effect of substance.	Gamble with increasing amounts.	Tolerance. Increasing amounts of activity to achieve effects.
Withdrawal syndrome or use of another substance to relieve/avoid symptoms. Substance is used more than intended.	Restless or irritable when attempting to cut down or stop gambling.	Withdrawal. Unpleasant states or effects after reduction in activity.
Efforts to control substance use are unsuccessful.	Repeated unsuccessful efforts to control.	Relapse. Repeated reversion to previous patterns of activity.
Much time is spent in activities to obtain the substance, use the substance or recover from the effects.	Preoccupied with gambling.	Salience. Becomes the most important activity in life. Dominates thinking, feeling and behaviour.
Decreased time is spent doing important social, occupational or recreational activities.	Damage to relationship, job or educational or career opportunity because of gambling.	Conflict. Compromised relationships, work or education lives, social and recreational activities.
Substance use continues despite negative consequences.	After losing money gambling, often returns to try to get even.	
	Illegal acts to finance gambling.	
	Gambles as a way of escaping from problems or of relieving a dysphoric mood.	Mood modification. Reliable and consistent shift in mood.
	Lies to conceal extent of gambling.	
	Relies on others to relieve financial problems caused by	

gambling.

Table 3
Summary of Theoretical and Descriptive Literature Reviewed in this Study

Thematic Area	Category	Source	Activity
Meaning	Theory	Chamberlin & Zhang (2009)	Workaholism
		Dittmar (2005)	Compulsive shopping
		Graham, Young, Valach & Wood (2008)	Substance use
		Lee & Mysyk (2004)	Compulsive shopping
		Morissette & Dedobbeleer (2003)	Substance use
		Neuner, Raab & Reisch (2005)	Compulsive shopping
		Warner & Griffiths (2006)	Exercise addiction
	Individual Accounts	Chappell, Eatough, Davies & Griffiths (2006)	Internet use disorder
		Clark & Calleja (2008)	Compulsive shopping
		Wiklund (2008)	Substance use
Determinant of health, well-being and justice	Theory	Alexander (2000)	Addiction
		Allegre, Souville, Therme & Griffiths (2006)	Exercise addiction
		American Psychiatric Association (2000)	Substance use, gambling
		Brands, Sproule & Marshman (1998)	Substance use
		Centre for Addiction and Mental Health (2001)	Substance use
		Csiernik & Rowe (2003)	Substance use
		Decorte (2001)	Substance use
		Etienne (2003)	Substance use
		Graham, Young, Valach & Wood (2008)	Substance use
		Griffith (2000a)	Internet use disorder
		Hollander, Baker, Kahn & Stein (2006)	Impulse-control disorders
		Kimberley & Osmond (2003)	Substance use
		Kwok (2003)	Substance use
		Pallanti, Rossi & Hollander (2006)	Gambling
		Shaffer & Korn (2002)	Gambling
		Singer (2008)	Substance use
		Watkin, Rowe & Csiernik (2003)	Substance use
	Individual Accounts	Conner & Rosen (2008)	Substance use
		Garcia (2008)	Substance use
Organises behaviour	Theory	Allegre, Souville, Therme & Griffiths (2006)	Exercise addiction
		Carnes, Murray & Charpentier (2005)	Workaholism
		Chappell, Eatough, Davies & Griffiths (2006)	Internet use disorder
		Cox & Orford (2004)	Exercise addiction
		Helbig & McKay (2003)	Substance use
		Power (2005)	Eating disorders
	Individual Accounts	Boje & Tyler (2009)	Workaholism
		Chappell, Eatough, Davies & Griffiths (2006)	Internet use disorder
		Clark & Calleja (2008)	Compulsive shopping
		Cox & Orford (2004)	Exercise addiction
		Gibson, Acquah & Robinson (2004)	Substance use
		Hughes (2007)	Substance use
		Nixon & Solowoniuk (2006)	Gambling
		Trujillo (2004)	Substance use
Develops and changes	Theory	Allegre, Souville, Therme & Griffiths (2006)	Exercise addiction
		Carnes, Murray & Charpentier (2005)	Substance use, impulse-control disorders

		Decorte (2001)	Substance use
		Granfield & Cloud (2001)	Substance use
		Gutman (2006)	Substance use
		Heyman (2009)	Substance use
		Prins (2008)	Substance use
		Scarscelli (2006)	Substance use
		Scherbaum & Specka (2008)	Substance use
		Schmitz (2005)	Substance use, impulse-control disorders
		Sobell, Sobell, Toneatto & Leo (1993)	Substance use
	Individual Accounts	Carnes, Murray & Charpentier (2005)	Sex addiction, eating disorders
		Järvinen (2008)	Substance use
Environment	Theory	Adkins & Keel (2005)	Exercise addiction
		Cox & Orford (2004)	Exercise addiction
		Griffiths (2000b)	Internet use disorder, sex addiction
		Joe-Laidler & Hunt (2008)	Substance use
		Lee & Mysyk (2004)	Compulsive shopping
		Raab & Neuner (2006)	Compulsive shopping, Internet use disorder
		Reinarman (2005)	Substance use
		Reith (2007)	Addiction
		Starace (2002)	Substance use, sex addiction, gambling, compulsive shopping, eating disorders
		Watkin, Rowe & Csiernik (2003)	Substance use
	Individual Accounts	Clark & Calleja (2008)	Compulsive shopping
		Cox & Orford (2004)	Exercise addiction
		Nixon & Solowoniuk (2006)	Gambling
		Schneider (2000)	Sex addiction
Therapeutic potential	Theory	Giugliano (2006)	Sex addiction
		Howard (2007)	Sex addiction
		Khalil, Davies & Castagnoli (2006)	Substance use
		Morahan-Martin (2005)	Internet use disorder
		Pantalon, Maciejewski, Desai & Potenza (2008)	Gambling
		Shaffer & Korn (2002)	Gambling
	Individual Accounts	Cox & Orford (2004)	Exercise addiction