There is no escaping it: broadband Internet access has forever changed the ways children and teenagers learn, play and live. Yet addictive Internet use is a relatively new phenomenon of which many people are unaware, and for which treatment is often not sought. Left ignored, excessive Internet use may lead to deteriorating relationships or interfere with normal functioning in life.

Navigating the Cyberworld With Your Child highlights the different types of Internet-related addictions that a child or teenager may face – such as pornography, social networking and texting, gaming and online shopping – and discusses prevention and treatment approaches. It also explores legal problems that arise from cybercrimes, and offers intervention strategies, services and programmes available for both victim and perpetrator. Finally, it takes a look at future technology and potential research areas.

Written in an easy-to-understand, reader-friendly style, **Navigating the Cyberworld With Your Child** brings together 12 researchers and practitioners from the fields of child psychology and psychiatry in a series of insightful writings, and is an invaluable resource for parents, educators and counsellors.

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CONTENTS

PREFACE

The arrival of the Internet in the late 1980s marks the beginning of the golden age in information communication and technology. The Internet opens up the whole world and in a way brings people closer together across cultures, zones and boundaries.

Singapore, like many countries with high economic growth and population density, is ranked one of the top three Asian countries with a high proportion of its population accessing and using the Internet. As of January 2015, Singapore has the highest download broadband speed in the world (Ookla, 2015), with 80% of its 5.5 million people using the Internet (Internet Live stats, 2014). Most of the users fall within the 25-34 year old age group with the 15-24 year olds coming in at a close second. In terms of mobile connectivity, Singapore has a mobile penetration rate of 152%, with about 8.3 million active mobile subscriptions (We Are Social, 2015). The frightening fact is that Singaporeans have about 3.3

connected devices each, with smartphones being the most used device!

Fuelled by a huge customer demand created by social and print media, advertisements and peer influences, the Internet is now increasingly considered a basic necessity of Generation Z. Nevertheless, like most inventions, there are downsides and Internet addiction is a real problem. With it, related behaviours like Internet shopping, gaming and gambling addictions have become societal issues that cannot be completely ignored.

As a mental health professional, it is increasingly common to see a young person being brought to the clinic or hospital by their parents or caregivers for compulsive or unhealthy use of the computer and the Internet. Whether Internet addiction is considered a clinical disorder is very much still debatable but we know that its severity is highly correlated with that of comorbid psychiatric disorders. Preliminary local research suggests high levels of anxiety and depressive symptoms among those inflicted with Internet addiction, and a possibility of them (Internet addiction and psychiatric conditions) mutually reinforcing each other.

I hope this book will be able to inform readers about Internet use, its possible problems and how to go about getting help if they observe a young person who is using the Internet in a compulsive or pathological manner. Individuals who are at risk can seek help from several professional services in Singapore, such as the National Addictions Management Service (NAMS) in the Institute of Mental Health and TOUCH Cyber Wellness (see pg 169 for a list of resources). As many individuals suffering from Internet addiction and related behaviours are youths and young persons, this book is specifically targeted at parents, teachers and counsellors.

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1
CHAPTER

WHAT IS ADDICTION?

Dr Ong Say How

WHAT IS ADDICTION?

Addiction has been defined as "compulsive behaviors that persist despite serious negative consequences for personal, social, or occupational function" (Camí & Farré, 2003). It is a condition characterised by the compulsive and continued use of a substance or drug (e.g., alcohol, heroin, amphetamine, nicotine) or engagement in an activity (e.g., gambling, shopping, watching pornography) to such an extent that it interferes with the social, academic and occupational functioning of the individual.

Addiction can be experienced either physically or psychologically. Physical addiction describes a biological state in which the body needs a higher and higher dosage of a drug in order to achieve its intended pleasurable or euphoric effect. This is called tolerance. The drug intake or involvement in addictive behaviour must be both psychologically reinforcing (increases the likelihood of further repeated use) and intrinsically rewarding (perception as being positive or desirable). Individuals who are

addicted typically lack awareness and insight that their behaviour is out of control and causing problems to themselves and others.

Dependence describes an adaptive state associated with a withdrawal syndrome upon cessation of repeated exposure to a stimulus (drug or activity). The individual suffers withdrawal during which the body reacts adversely to the cessation of the drug, causing physical-somatic (e.g., nausea, diarrhoea, bodily pains, tremors, fatigue, sweating, confusion) and emotional-motivational withdrawal symptoms (e.g., depression, anxiety, frustration, feeling unease, intense craving, mood irritability and reduced capacity to experience pleasure). Dependence continues because the withdrawal effects are so unpleasant that the individual has to rapidly resume taking the drug or the behaviour to relieve those symptoms.

In summary, addiction is a compulsion for rewarding stimuli that is mediated through positive reinforcement while dependence, which is mediated through negative reinforcement, involves a desire to use a drug or perform a behaviour to avoid the unpleasant withdrawal symptoms that results from cessation of exposure to it.

Many have debated whether addiction is a "disease", a "social problem" or a true mental illness, and whether drug dependence and addiction mean the same thing. Even medical experts do not always agree on this.

The underlying mechanism for addiction lies primarily in the reward circuitry system in the brain. When consumed, a psychoactive drug mimics the effect of the brain's key neurotransmitter, dopamine, which is involved in the experience of pleasure. Other neurotransmitters such as glutamate and serotonin, however, work through other mechanisms to reinforce the reward system through the learning and remembering of a reward experience and emotional regulation of reward-seeking behaviour respectively. After prolonged usage, the brain adapts by down-regulating the number of receptors for dopamine or produce less natural dopamine, thus reducing the ability to experience pleasure. Therefore, the addict has to take an ever-increasing amount of the drug to achieve its intended "high" effect.

Because psychoactive drugs are extremely potent in causing the release of dopamine (up to ten times more than natural rewards), an addict soon chooses to use these drugs rather than rely on naturally rewarding behaviours.

EARLY RESEARCH AND CLASSIFICATION OF ADDICTION

Early research in addictions delved largely on alcohol abuse and dependence. The early definition of alcohol dependence was based on work done in 1976, when the British psychiatrist Griffith Edwards and his American colleague Milton M. Gross collaborated to produce a formulation of what had previously been understood as alcoholism – the alcohol dependence syndrome. The Edwards & Gross criteria consists of the following elements for which the degree of dependence is judged:

- Narrowing of the drinking repertoire
- Increased salience of the need for alcohol over competing needs and responsibilities

- An acquired tolerance to alcohol
- Withdrawal symptoms
- Relief or avoidance of withdrawal symptoms by further drinking
- Subjective awareness of compulsion to drink
- Reinstatement after abstinence

In the latest edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5), published by the American Psychiatric Association and used to help clinicians and researchers diagnose and classify mental disorders, addiction is categorised under substance-related and addictive disorders.

In DSM-5, substance-related disorders have been sub-grouped into alcohol, caffeine, hallucinogen, cannabis, cocaine, sedative/hypnotic/anxiolytic, stimulant, solvent inhalant and tobacco-related. Gambling disorder remains the only non-substance-related disorder (behavioural addiction) described in DSM-5, as evidenced by similar activation of the reward systems as drugs of abuse. Other forms of behavioural addictions, e.g., using the Internet, sex, shopping, exercise etc., have not been included due to insufficient scientific evidence and a lack of consensus in establishing diagnostic criteria.

Addiction is very different from a habit. All of us have habits or rituals of some sort that we carry out in our daily lives. Habits are done by choice and one can decide when to stop. However, a habit can eventually develop into an addiction. What started out innocently as an enjoyable activity without any significant problems soon takes on a life of its own and we cannot stop carrying out that habit, invariably leading to psychological and/or physical negative effects.

Whether physical or psychological in nature, the individual is unable to control the aspects of the addiction alone or without help from medical professionals and their loved ones.

COMMON FEATURES AMONG ADDICTIONS

When a person is addicted to a substance, they lack the ability to control its use and would continue taking it at the expense of their health, even if it is causing harm to themselves or others. Substance dependence can cause powerful cravings, which the person finds very hard to overcome.

- The person engages in taking the substance or in the activity repeatedly and cannot stop despite multiple prior attempts.
- An addict has to take an increasing amount of the drug or do more of the activity in order to achieve its intended effect.
- Presence of withdrawal symptoms and cravings – when the substance gradually disappears from the body or upon cessation of the activity, the addict experiences physical and mood-related symptoms.
- Taking unnecessary and impulsive risks – done in the process of obtaining the drug or engaging in the activity despite knowing its risks and dangers, e.g., breaking the law.
- Substance use or activity involvement becomes an obsession and compulsion – the mind is preoccupied with means and ways to obtain the drug or engage in the activity.

- Substance use or activity as a means to cope with problems – e.g., an alcoholic drinking to forget about his marital woes, a game addict immerses himself in "alternate-world" computer games to avoid real-life problems.

- Secrecy and solitude – addicted individuals usually take their substance or partake in their activities alone to avoid detection by family members.

- Denial – a hallmark of addiction is that addicted individuals refuse to acknowledge or are simply not aware that they have a problem.

- At the expense of one's physical health – e.g., an alcoholic with liver cirrhosis still continues drinking hard liquor. An Internet addict may omit food and drinks to continue his pursuits online.

- At the expense of social and family relationships – social/recreational activities as well as important family gatherings and events are often given up in order to use the drug or engage in the activity.

- Financial difficulties – at some point, the substance use or activity demands huge expenditures and time away from work or studies. Borrowing or stealing of money from family members and others can happen. The addict is also likely to lose his job due to frequent absenteeism and deterioration in work quality, leading to financial woes.

- Run-ins with the law – typically in relation to drug intoxication or impulsivity as a result of disinhibitory effects caused by drugs. Also, the addict might commit crimes to get money to pay for his addiction. Domestic and spousal violence, separation and divorce are very common as well. Legal problems could also arise in Internet and Internet-related addictions (addressed in Chapter Seven).

CAUSES OF ADDICTION

As with most social issues and mental illnesses, the causes of addiction are multifactorial, of which many are still not well understood. It would therefore be correct to say that there is generally a combination of social, physical, psychological, emotional and circumstantial factors and it is the interplay of all these factors that contributes to the development of addiction.

In general, males between 18 to 35 years of age are more likely to engage in addictive behaviours. While addiction was associated with poverty, ghettos and gangs in the past, it has been increasingly apparent that social class differences are no longer as strong a factor in predicting addiction. Many young people, ranging from middle-income households to those from well-to-do families, are experimenting with synthetic drugs or using them recreationally. The following are certain factors that may increase the risk:

- Nature (Genetics) – It has been estimated that 40-60% of the vulnerability to developing an addiction is due to genetics. In a Swedish study on 18,000 adopted children, adopted children whose biological parents abused drugs were found to be twice as likely to do so themselves, compared with adopted children whose birth parents did not abuse drugs. Adopted children also had about twice the risk of drug abuse if either their biological full or

half-sibling had a drug abuse problem. In addition, genes responsible for mental illnesses could themselves make a person more vulnerable to developing substance abuse.

- Nurture (Environment) – People with parents who are drug addicts or are living with a close relative with an addiction problem have a higher risk of eventually becoming one themselves. Growing up in a drug-taking environment surrounded by drugs and drug paraphernalia or witnessing parents taking drugs, not only desensitises a young person to drugs, but also makes the drugs easily available.

- Mental condition – People with chronic anxiety, depression, Attention Deficit Hyperactivity Disorder (ADHD) and specific types of personality disorders (that involve high novelty-seeking, low harm avoidance, low reward dependence) with tendencies for risk-taking, impulsiveness and behavioural undercontrol, have a higher risk of eventually becoming addicted to drugs, alcohol or nicotine.

- Peer pressure and loneliness – Young people can be pressured to do things they do not wish to do, including smoking and drug-taking. The pressure to conform and to gain acceptance is particularly strong for young people. Young people also tend to feel easily bored or lonely. Taking drugs together can provide that connection with peers.

- Family attachment – Young people who do not have a strong attachment to their families or grow up in an

invalidating, critical or hostile home environment are more at risk. Abuse (whether neglect, physical or sexual) also predisposes a person to drug abuse. In some cases, individuals take drugs to escape from their harsh realities or to cope with past trauma.

NEW ONSET OF BEHAVIOURAL ADDICTIONS

With the advances in info-technology and the human's perpetual need to seek novel sensations, new addictive behaviours have emerged and are now being studied. To date, much is still unknown about them. More research studies are beginning to offer deeper insight into the understanding of behavioural addictions and there is an increasing number of data published on the topics of the Internet and Internet-related addictions. Without a doubt, unless we recognise the addiction symptoms and intervene early, more social, physical and mental health problems are likely to arise.

The topic of new behavioural addictions will be covered in the following chapters.

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