

Running Head: PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES

**A PHENOMENOLOGICAL STUDY OF PROBLEMATIC INTERNET USE  
WITH MASSIVELY MULTIPLAYER ONLINE GAMES**

By

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submitted in partial fulfilment of the requirements for the degree of

**MASTER OF ARTS IN CLINICAL PSYCHOLOGY**

in the

**FACULTY OF HEALTH SCIENCES**

at the

**NELSON MANDELA UNIVERSITY**

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2017

**Declaration**

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## Abstract

Massively multiplayer online games (MMOG's) are a specific form of online computer games that allow for millions of people to simultaneously play online at any time. This form of online gaming has become a huge phenomenon worldwide both as a popular past time and a business endeavour for many individuals. There are more than 16 million people worldwide who subscribe to fantasy role-playing online games. Although such games can provide entertainment for many people, they can also lead to problematic Internet use (PIU). PIU has also been referred to as Internet addiction, and can cause significant problems in an individual's functioning.

The study aimed to enhance a greater understanding of the phenomenon of male adults' experiences PIU with MMOG's. More specifically the study aims to identify if PIU with MMOG's can be considered a form of Internet addiction within South Africa. Furthermore, assisting in the further development of online addiction diagnosis and treatment strategies. The study utilised an interpretive phenomenological approach (IPA) and participants were purposively sampled. The data was collected using semi-structured individual interviews. Furthermore, Braun and Clarks thematic analysis was used during data analysis while incorporating the four major processes in phenomenological research, namely 1) epoche, 2) phenomenological reduction, 3) imaginative variation and, 4) synthesis.

Themes that emerged from the analysis of the participants' experiences included, initial description of use, motives for continued use of MMOG's, consequences of PIU with MMOG's, perceptions of PIU with MMOG's, and treatment considerations. This study provided a thick description of South African and international literature and combines the literature with the themes that emerged from the participants experiences in order to produce discussions based on the findings of this qualitative study. Conclusions, recommendations, and limitations of this study informed future research on cyber citizenship by providing a

## PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES

detailed understanding of the context of South African male adults' experiences of PIU with MMOG's.

**Keywords:** *Internet addiction, male adult, massively multiplayer online games, online gaming, phenomenological, problematic Internet use, qualitative.*

**Dedication**

This study is dedicated in loving memory of my grandfather Peter Hauptfleish.

*Your mind is your most powerful tool and with the mind you can achieve anything.*

You taught me that grandpa.

## **Acknowledgements**

I would like to express my gratitude and appreciation to:

- The participants: thank-you for your willingness to share your story. I hope that I was able to describe your story with the respect and care that it deserves.
- The National Research Foundation and Nelson Mandela University Post Graduate Research Studies: thank-you for assisting with the financial aspect thus making this study possible.
- My supervisor, Professor Howcroft: thank-you for your constant guidance, humour, and expertise. The completion of this study would not have been possible without you.
- My friends: thank you for all your support and motivational words during this process. You guys were my rock.
- My parents: thank-you for your unconditional love and support. I would never have been where I am today without both of you as role models.

**LIST OF TABLES**

Table 1:	Demographic information .....	105
Table 2:	Categories and themes.....	108
Table 3:	Description of initial use. ....	109
Table 4:	Reasons for massively multiplayer online gaming. ....	112
Table 5:	Consequences of massively multiplayer online gaming .....	126
Table 6:	Perceptions of problematic Internet use with massively multiplayer online games. ....	132
Table 7:	Treatment.....	137

**LIST OF FIGURES**

Figure 1: Reasons for massively multiplayer online gaming .....	126
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**LIST OF APPENDICES**

APPENDIX A.....	180
APPENDIX B.....	181
APPENDIX C.....	183
APPENDIX D.....	184
APPENDIX E.....	186
APPENDIX F.....	192
APPENDIX G.....	193

TABLE OF CONTENTS

	Page
DECLARATION .....	I
ABSTRACT .....	II
DEDICATION.....	IV
ACKNOWLEDGEMENTS .....	V
LIST OF TABLES .....	VI
LIST OF FIGURES .....	VII
LIST OF APPENDICES .....	VIII

CHAPTER ONE  
INTRODUCTION

1.1	CHAPTER OVERVIEW .....	1
1.2	FOUNDATION.....	1
1.3	RELEVANCE .....	2
1.4	SELF-REFLEXIVITY.....	3
1.5	RESEARCH METHOD .....	3
1.6	RESEARCH DESIGN.....	4
1.7	SAMPLING AND PARTICIPANTS.....	5
1.8	RESEARCH PROCEDURE.....	6
1.9	DATA COLLECTION METHODS.....	7
1.10	DATA ANALYSIS .....	8
1.11	ETHICAL CONSIDERATIONS .....	9
1.12	THEORETICAL UNDERPINNING .....	9
1.13	STRUCTURE OF PRESENTATION .....	10
1.14	SUMMARY .....	11

CHAPTER 2  
BEHAVIOURAL ADDICTION

2.1	INTRODUCTION.....	12
-----	-------------------	----

## **PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES**

2.2	THE EVOLUTION OF ADDICTION .....	12
2.3	DEFINING BEHAVIOURAL ADDICTION.....	14
2.4	PROBLEMATIC INTERNET USE.....	17
2.4.1	<i>Exploring problematic Internet use.</i> .....	17
2.4.2	<i>Incidence.</i> .....	20
2.4.3	<i>Clinical picture</i> .....	23
2.4.4	<i>Aetiology</i> .....	27
2.4.5	<i>Psychiatric co-morbidity.</i> .....	29
2.4.6	<i>Treatment.</i> .....	31
2.5	MODELS OF ADDICTION .....	32
2.5.1	<i>Biological models of addiction</i> .....	33
2.5.2	<i>Psychological models of addiction</i> .....	34
2.5.3	<i>Social models of addiction</i> .....	37
2.5.4	<i>The biopsychosocial models of addiction.</i> .....	39
2.6	CONCLUSION .....	44

## **CHAPTER 3**

### **EXPLORING PATHOLOGICAL MASSIVELY MULTIPLAYER ONLINE GAMING**

3.1	INTRODUCTION.....	45
3.2	DEFINING MASSIVELY MULTIPLAYER ONLINE GAMES .....	46
3.3	THE EVOLUTION OF MASSIVELY MULTIPLAYER ONLINE GAMES.....	46
3.4	DEMOGRAPHICS OF MASSIVELY MULTIPLAYER ONLINE GAMES.....	48
3.5	PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES .....	49
3.5.1	<i>Exploring problematic Internet use with massively multiplayer online games</i> .....	49
3.5.2	<i>Historical developments.</i> .....	50
3.5.3	<i>Incidence/prevalence.</i> .....	52
3.5.4	<i>Clinical characteristics.</i> .....	53
3.5.5	<i>Clinical representation</i> .....	56

## PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES

3.5.6	<i>Differential diagnosis</i> .....	58
3.5.7	<i>Course</i> .....	58
3.5.7.1	<i>Enjoyment and leisure</i> .....	59
3.5.7.2	<i>Sensation-seeking</i> .....	59
3.5.7.3	<i>Online identity</i> .....	60
3.5.7.4	<i>Flow of experience</i> .....	63
3.5.7.5	<i>Escaping reality</i> .....	64
3.5.7.6	<i>Anonymity</i> .....	65
3.5.7.7	<i>Social support</i> .....	67
3.5.7.8	<i>Online relationships</i> .....	68
3.5.8	<i>Personality and problematic Internet use with massive multiplayer online games</i> ..	69
3.5.9	<i>Outcomes</i> .....	71
3.5.10	<i>Treatment and prognosis</i> .....	73
3.6	CONCLUSION .....	75

## CHAPTER 4

### RESEARCH METHODOLOGY

4.1	INTRODUCTION.....	76
4.2	RESEARCH METHOD .....	77
4.3	RESEARCH DESIGN.....	78
4.4	TRANSCENDENTAL SCIENCE .....	79
4.5	MAJOR PROCESSES IN PHENOMENOLOGICAL RESEARCH.....	81
4.5.1	<i>Epoche</i> .....	81
4.5.2	<i>Phenomenological reduction</i> .....	83
4.5.3	<i>Imaginative variation</i> .....	84
4.5.4	<i>Synthesis</i> .....	85
4.6	SAMPLING AND PARTICIPANTS.....	86
4.7	RESEARCH PROCEDURE.....	88
4.8	DATA COLLECTION METHODS.....	90
4.9	CRITERIA FOR INTERNET GAMING DISORDER.....	91
4.10	DATA ANALYSIS .....	92

4.11	ESTABLISHING TRUSTWORTHINESS .....	95
4.12	ETHICAL CONSIDERATIONS .....	97
4.12.1	<i>Institutional approval.....</i>	<i>97</i>
4.13	INFORMED CONSENT .....	98
4.13.1	<i>Risks and benefits.....</i>	<i>99</i>
4.13.2	<i>Avoidance of deception. ....</i>	<i>99</i>
4.13.3	<i>Privacy, confidentiality and anonymity. ....</i>	<i>99</i>
4.13.4	<i>Accurate dissemination of findings.....</i>	<i>100</i>
4.13.5	<i>Competence of the researcher. ....</i>	<i>100</i>
4.13.6	<i>Debriefing .....</i>	<i>100</i>
4.14	CONCLUSION .....	101

## CHAPTER 5

### FINDINGS AND DISCUSSION

5.1	INTRODUCTION.....	103
5.2	BIOGRAPHICAL DESCRIPTION OF THE PARTICIPANTS .....	104
5.3	EXPLORING THE NATURE OF THE PARTICIPANTS.....	106
5.4	CATEGORIES AND THEMES .....	107
5.5	ANALYSIS OF FINDINGS .....	109
5.5.1	<i>Description of initial use.....</i>	<i>109</i>
5.5.1.1	<i>Initiating factors.....</i>	<i>109</i>
5.5.1.1.1	<i>Type of game played. ....</i>	<i>110</i>
5.5.1.1.2	<i>Aspect of being online. ....</i>	<i>110</i>
5.5.2	<i>Summary of theme. ....</i>	<i>112</i>
5.5.3	<i>Reasons for massively multiplayer online gaming.....</i>	<i>113</i>
5.5.3.1	<i>Enhancement motive .....</i>	<i>113</i>
5.5.3.1.1	<i>Enjoyment. ....</i>	<i>113</i>
5.5.3.1.2	<i>Sensation-seeking. ....</i>	<i>114</i>
5.5.3.1.3	<i>Aspect of winning.....</i>	<i>115</i>
5.5.3.2	<i>Coping motive. ....</i>	<i>116</i>
5.5.3.2.1	<i>Escaping.....</i>	<i>117</i>

## PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES

5.5.3.2.2	Creating a virtual reality. ....	117
5.5.3.3	Online social engagement. ....	119
5.5.3.3.1	Online relationships. ....	119
5.5.3.3.2	Online social support. ....	120
5.5.3.4	Online identity. ....	122
5.5.3.5	Skill development. ....	124
5.5.4	Summary of theme. ....	124
5.5.5	Consequences of massively multiplayer online gaming. ....	126
5.5.5.1	Self. ....	126
5.5.5.1.1	Health. ....	127
5.5.5.1.2	Emotional dysregulation. ....	128
5.5.5.1.3	Substance abuse. ....	129
5.5.5.2	Others. ....	130
5.5.5.2.1	Relationship strain. ....	130
5.5.6	Summary of theme. ....	131
5.5.7	Perceptions of problematic Internet use with massively multiplayer online games	132
5.5.7.1	Addiction. ....	132
5.5.7.1.1	Preoccupation. ....	133
5.5.7.1.2	Withdrawal. ....	135
5.5.7.1.3	Unsuccessful efforts to cut back. ....	135
5.5.7.1.4	Escape. ....	136
5.5.8	Summary of theme. ....	137
5.5.9	Treatment ....	138
5.5.9.1	Disregard for treatment. ....	138
5.5.10	Summary of theme. ....	139
5.6	SUMMARY OF FINDINGS. ....	139
5.7	CONCLUSION ....	141

## CHAPTER 6 CONCLUSION

6.1	INTRODUCTION. ....	143
6.2	SUMMARY OF METHODOLOGY ....	144
6.3	SUMMARY OF FINDINGS ....	146

## **PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES**

6.4	STRENGTHS OF THE PRESENT STUDY .....	147
6.5	LIMITATIONS OF THE PRESENT STUDY .....	149
6.6	GENERAL CONSIDERATIONS.....	150
6.7	RECOMMENDATIONS.....	152
6.8	PERSONAL REFLECTION.....	154
6.9	CONCLUSION .....	156
	REFERENCES .....	157

## Chapter One

### Introduction

*The key to growth is the introduction of higher dimensions of consciousness into  
our awareness.*

*(Lao Tzu, n.d)*

#### 1.1 Chapter overview

This chapter will provide an introduction to the present study. The foundation and the relevance of the present study is explained. The researcher will clarify her interest in the phenomenon under study and briefly explore the research methodology used to conduct the research. The chapter will conclude with an explanation regarding theoretical underpinnings and an outline of the structure of the present research study.

#### 1.2 Foundation

The aim of the present study is to explore and describe the lived experiences of Problematic Internet Use (PIU) with Massively Multiplayer Online Games (MMOGs) among male adults. The present study will focus on promoting an understanding of PIU with MMOGs, thus assisting in the further development of online addiction diagnosis and treatment strategies. A qualitative transcendental phenomenological foundation has been utilised in order to investigate the subjective descriptions and meanings that participants attribute to massively multiplayer online gaming. The study furthermore aims to identify common patterns that emerge between participants with regards to the lived experience of PIU with MMOGs within South Africa (SA).



### 1.3 Relevance

Massively multiplayer online games (MMOGs) are a specific form of online computer games, and individuals who play them are known as gamers (Graham, 2010). The MMOGs strive to create a detailed virtual environment into which gamers immerse themselves (Graham, 2010). Massively multiplayer online games (MMOGs) have become an increasingly popular form of Internet use. There are more than 16 million people worldwide who subscribe to fantasy-type role online games (Wu, Scott & Yang, 2012). Most of these online games are marketed to and designed for adults (Entertainment Software Association, 2005). Although such games can provide entertainment for many people, they can also lead to PIU (Morrison & Gore, 2010). Problematic Internet use (PIU) has also been referred to as Internet addiction, and can cause significant problems in an individual's functioning (Young, 2009).

Despite a small body of recent and relevant international research into PIU with MMOGs, such research in SA is lacking. The South African government has issued a national research directive for research into cyber citizenship. Cyber citizenship is a primary transdisciplinary research domain at Nelson Mandela University (NMU). The perceptions, understandings, and behaviour of male adults' PIU with MMOGs form an integral part of the research imperative. The importance of understanding how male adults view their PIU with MMOGs will inform future cyber safety and online gaming addiction diagnosis and treatment strategies. Furthermore, this study will aim to contribute to the knowledge in the field of psychology for greater understanding of PIU with MMOGs within the South African context.

### **1.4 Self-reflexivity**

The topic of behavioural addiction, more specifically PIU, has become an increasing concern in society. Within the last two years, the researcher has observed an increasing number of individuals within her own community who spend extensive hours online. This observation sparked an interest for the researcher in online behaviour and addiction.

On account of knowing individuals who spend extensive hours online playing MMOGs, the researcher developed an attitude of interest and respect with regard to the phenomenon under study. For this reason the researcher decided to embark on a journey of discovery with the present study, which she felt would be relevant and informative in adding to the body of knowledge within this field, within her own community and within society.

### **1.5 Research method**

The study utilises a qualitative, exploratory-descriptive method of inquiry. Descriptive research is typically used to describe the characteristics of a population or phenomenon being studied as it exist naturally (Gravetter & Forzano, 2006). Qualitative methods gather information in the form of words that provide an in-depth understanding of the nature of what people are experiencing and allows participants to communicate their experiences in their own choice of words, displaying sensitivity to the context in which the study takes place (Smith, 2003).

The advantages of qualitative research are that it enables researchers to study human experience in a great deal of depth. Qualitative research is appropriate in the context of attempting to understand the social phenomenon of problematic online gaming behaviour with MMOGs from the perspective of the participants.

## **1.6 Research design**

The present study employs a transcendental phenomenological research design by providing a description and analysis of the nature of male adults' experiences of PIU with MMOGs. Major processes in phenomenological research include the epoche, phenomenological reduction, imaginative variation and the synthesis of meaning (Moustakas, 1994). Through the incorporation of these major processes, phenomenological studies seek a description of the phenomenon as seen through the eyes of the individual who has experienced it (De Vos, Strydom, Fouche & Delport., 2005).

Phenomenological research focuses on understanding the individual's perceptions, perspectives and understanding of a particular situation (De Vos et al., 2005). It does not attempt to reduce the phenomenon into identifiable variables, but rather to accurately capture the phenomenon within the context in which it occurs. Phenomenology presumes that the phenomenon studied is related to various meanings created within a certain context and belongs to an individual's lived world of experiences (Smith, 2003). The research design has been used to seek understanding about the meaning that the participants attach to their experiences of the phenomenon.

The goals of the research design are achieved through the focus of a phenomenological inquiry, namely human experience. Phenomenology emphasises subjectivity over objectivity as it focuses on description and interpretation rather than upon the analysis and measurement of a phenomenon (Smith, 2003). Accordingly, the focal point of such research tends to include people's feelings or meanings as well as their attitudes and beliefs (Moustakas, 1994). The participant is considered a co-researcher as they explain and make meaning of their subjective experience of PIU with MMOGs. In doing so, a holistic meaning of the experience in context, as articulated by the participant, is obtained (De Castro, 2003).

### 1.7 Sampling and participants

The researcher established that many studies had been conducted on adolescent PIU with online games. However, there has been a lack of research regarding the adult population and PIU with online games, more specifically with MMOGs. The researcher concluded that further research into adults' PIU with MMOGs would be an important phenomenon to explore to add to the current body of knowledge in the field.

Inclusion criteria for the present study identified that participants must be males, 18 years or older (legal age in South Africa), living in the Port Elizabeth, Eastern Cape area, and participants must play MMOGs. In order to establish that participants are indeed active in playing MMOGs, the proposed criteria from the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association [APA], 2013) for Internet gaming addiction (IGD) was used as a guide (see Appendix A). Therefore, the participants must make constant use of MMOGs and must have met five or more of the DSM-5 criteria for IGD (Criteria in Appendix A). Participants of any race were able to participate in the present study. The language used for the interview process was English. The participants therefore needed to be competent in communicating in this language.

Qualitative sampling targets the population group from whom the findings of the study should apply (Creswell & Poth, 2017). The sample is selected from the aspects that contain the most representative characteristics of the problem. The sampling method that was used for the purpose of the present study was non-probability sampling. Non-probability sampling focuses on the relevance of the sample in relation to the research (Neuman, 2003). This sampling technique also uses subjective methods for participants to be included in the sample, based on the factors with which they present. The type of non-probability sampling that was used in the present study is purposive sampling. This sampling depends on the availability and willingness of the individual to participate in the

study, as well as the participant being typical of the population researched, that is, those who experience PIU with MMOGs (Terre Blanche, Durrheim & Painter 2006). The advantages of non-probability purposive sampling are that it is less costly and relatively quick to implement and, furthermore, is useful in cases where drawing conclusions and making generalisations from the data is less important to the purpose of the research.

The first participant included in the study was an acquaintance of the researcher who had identified himself as spending extensive amounts of time playing MMOGs to a problematic degree. Further participants were obtained and selected using snowball sampling, where the sample gradually increased through the contacts and references of the initial participant and the researcher (Terre Blanche et al., 2006).

As there are no set rules for determining sample size with qualitative research, the sample size of a qualitative study is based, not on numbers, but rather on identifying significant issues or themes (Creswell & Poth, 2017). Due to the in-depth nature of phenomenological research, it is suitable for small scale studies, thus the approximate number of participants necessary for the present study was between five to eight participants, until saturation of information occurred (Denscombe, 2003). The researcher identified seven participants appropriate for the present study. The sample size was dependent on the inclusion and exclusion criteria as well as data saturation.

### **1.8 Research procedure**

An application for approval of the present research study was made to the Department of Psychology and once it had been accepted, an application was made to the Faculty of Health Sciences Research Technology and Innovation (FRTI) and Ethics (Human) Committee. Approval for the present study was obtained from the committees

prior to conducting the present research study. The reference number for approval of the present study is H15-HEA-PSY-032.

The suitability of participants for the present study was established by asking potential participants to complete a biographical questionnaire with questions pertaining to the inclusion criteria (see Appendix B). An information letter was provided to the participants at the outset of the interview, informing the participants of the nature of the study, confidentiality issues, and the possible risks and benefits pertaining to the research (see Appendix D). Agreement to participate in the present study was obtained by means of a signed consent form. The consent form also served to comply with ethical obligations (see Appendix E).

Seven participants were identified to participate in the present study. The interviews were conducted face-to-face and recorded using an audio recording-device. Thereafter, the interviews were transcribed and analysed. Both the professional transcriber and independent coder signed a confidentiality agreement (See Appendix F and Appendix G). On completion of the research, each participant will receive a summary of the findings.

### **1.9 Data collection methods**

The collection of data for the present study was obtained through the completion of the biographical questionnaire (see Appendix B). The biographical questionnaire was utilised in order to obtain relevant information from each participant regarding their eligibility for inclusion in the present study.

Once participants were identified, the data collection process continued with individual, semi-structured interviews (see Appendix C). These interviews were an interactive process used to describe the participants' experience of PIU with MMOGs. The

interviews were recorded with the use of an audio-recording device and later transcribed in order to work with the content that was acquired.

### **1.10 Data analysis**

Once the data obtained from the interviews was collected and transcribed, the data processing and analysis was conducted in accordance with the principles and guidelines of transcendental phenomenological research. These principles and guidelines were incorporated into the present study through the use of the six phases in thematic analysis procedures developed by Braun and Clarke (2006).

Thematic analysis is a method utilised in order to identify, analyse and report themes within data (Aronson, 1994; Braun & Clarke, 2006). Using this method of analysis produces a rich, detailed, and complex account of the data. In the present study, the phenomenon that was the topic of focus was male adults' experiences of PIU with MMOGs, and the aim of data analysis was to provide rich descriptions of the participants' subjective, lived experiences of this phenomenon.

To ensure the credibility of the data analysis and research results, an independent coder simultaneously analysed the themes identified by the researcher. Once the analyses had been completed, the researcher and independent coder consulted on their findings to ensure the integrity of the results obtained from the data analysis.

The role of the researcher and the methods used to ensure quality and trustworthiness were taken into consideration. Lincoln and Guba's (1985) data constructs in ensuring trustworthiness in qualitative research, were deemed suitable to realise this consideration. These constructs include credibility (providing a true picture of the phenomenon), transferability (justified application of findings to a similar context), dependability

(possibility of future repeated studies), and confirmability (showing that findings are not due to the researcher's own predispositions) (Shenton, 2004).

### **1.11 Ethical considerations**

The researcher is bound by ethical research practices that include the responsibility to be honest and respectful to all individuals involved or affected by this research study (Gravetter & Forzano, 2006). Researchers have two basic categories of ethical responsibility, namely firstly, to responsibly conduct research in a manner that ensures the welfare and dignity of the participants of the research study, and secondly, to ensure that the reported evidence of the research is accurate and honest (Gravetter & Forzano, 2006).

The Health Professions Council of South Africa (HPCSA, 2008) provides Ethical Principles for Psychologists and a Code of Conduct as guidelines for the present researcher in order to establish a harmony between values, the quest for knowledge and the rights of the individuals involved in the research.

Ethical considerations that were recognised as essential to the process of the present study included: (1) institutional approval and clearance, (2) informed consent, (3) avoidance of harm, (4) avoidance of deception, (5) privacy, confidentiality and anonymity, (6) accurate dissemination of findings, (7) competence of the researcher, and (8) debriefing (HPCSA, 2008).

### **1.12 Theoretical underpinning**

The phenomenon of behavioural addiction, more specifically PIU with MMOGs, is a relatively new and emerging field of research. Currently, there has been no universally accepted theoretical model to explain PIU with MMOGs. For this reason, the researcher decided not to limit the study to one specific theoretical model.



The researcher did, however, find it relevant to explore models of addiction in relation to PIU with MMOGs. These models offer an insightful view in which to understand addiction and more importantly the influence of PIU with MMOGs in the lives of male adults. The hope of the researcher is that from the present study further knowledge can be gained in order to contribute to a definite model for PIU with MMOGs.

### **1.13 Structure of presentation**

The structure of this research treatise is as follows:

Chapter 1: This chapter provides an introduction to the study and contextualises the research process.

Chapter 2: Provides an exploration of the literature that conceptualises behavioural addiction, more specifically PIU. An in-depth exploration of the theoretical models exploring addiction was provided in order to understand the phenomenon of PIU with MMOGs.

Chapter 3: This chapter focuses on the literature encompassing pathological massively multiplayer online gaming.

Chapter 4: This chapter presents a detailed discussion of the research process, including aspects such as research methodology, research design as well as ethical considerations that were addressed in this study.

Chapter 5: This chapter presents the research findings. A discussion and interpretation of these findings are provided.

Chapter 6: This chapter encompasses the summary and conclusions for this study. Various recommendations based on the study and perceived limitations of the study are also discussed.

## **1.14 Summary**

The aims of this chapter were fourfold. Firstly, the chapter aimed to contextualise this study by providing the reader with the relevant background information. Secondly, the chapter aimed to orientate the reader to the nature of the study, the research problem and aims, as well as providing motivation for this research. Thirdly, it presented an outline of the research process. Fourthly, to provide the structure and outline of the chapters to unfold.

Chapter two will follow with an exploration of the literature encompassing behavioural addiction. The chapter specifically focuses on the phenomenon of PIU. An in-depth exploration of the theoretical models exploring addiction will be provided in order to understand PIU with MMOGs.

## Chapter 2

### Behavioural Addiction

*“An over-indulgence of anything, even something as pure as water can intoxicate.”*

*(Criss Jami, 2012)*

#### 2.1 Introduction

This chapter conceptualises the phenomenon broadly known as behavioural addiction. It provides an exploration into the concept of addiction and a critical review of the ever-growing literature encompassing behavioural addiction. Furthermore, the chapter provides a comprehensive discussion into the emerging phenomenon of problematic Internet use (PIU) in relation to the phenomenon under study. Problematic internet use (PIU) can be seen as a form of behavioural addiction that has, in recent years, become an important topic of research. This review explores the domains of the incidence, clinical picture, aetiology, co-morbidity, as well as treatment of PIU. Finally, the chapter will address theoretical models of addiction in order to provide a framework for the exploration of male adults' PIU with massively multiplayer online games (MMOGs).

#### 2.2 The evolution of addiction

The term addiction originated from the Latin word ‘*addicere*’, which means to adore, devote or yield oneself (Online Etymology Dictionary, 2001). In modern day science there is much debate about the exact terminology used to conceptualise addiction. Most commonly, the term addiction has referred to both psychological and physiological dependence on a substance (Sarafino, 1990). The term addiction has proven to be a difficult concept to understand as the discussion on what constitutes addiction is longstanding.

During the 17th and 18th century people were perceived to drink alcohol simply because they wanted to and not because they had to drink (Levine, 1978). Prior to the industrial revolution, the concept of addiction was used more broadly to characterise a relationship to any activity that upsets the balance of one's life (Alexander, 2004). The idea of addiction as a state of internal conflict is believed to have been introduced in the 19th century and developed in the 20th century, to a large degree relating to the 12-step programme of the Alcoholics Anonymous movement (Ferentzy, 2001). Addiction came to be defined as a disease in which the personal loss of control was a key symptom (Clark, 2011). The feature of loss of control has come to be the defining element of addiction. Addiction later came to signify a state that reduces capacity for voluntary behaviour (Clark, 2011). Though historical precedents do not settle the matter of whether this characterisation is appropriate, we can still establish that the contemporary broad understanding of addiction is not historically unique, but might reflect the need for a concept that describes certain problematic actions of our time (Hellman, Schoenmakers, Nordstorm & van Holst, 2010).

Conventionally, the term addiction refers to the dependence on exogenous drugs of abuse causing neuroadaptation. (Karim & Chaudhri, 2012). Thus, most official definitions of addiction are concentrated on drug ingestion. By implication, these definitions of addiction deny other manifestations of addiction, such as harmful addiction to non-drug related activities. However, some would argue that specific behaviours in a vulnerable individual can also lead to an addictive state. Several scholars have suggested that addiction does not necessarily involve abuse or dependence on a chemical intoxication or substance (Clark & Calleja, 2008; Clark, 2011; Griffiths 1999; Young, 2004). Clark (2011) proposes that a widening view of the construct of addiction is necessary to allow for the inclusion of non-substance based behaviours as addictions.

Broadly speaking, addiction refers to the individual's overpowering desire or compulsion to continue engaging in a particular activity and to continue with the activity by all means regardless of the consequences (Bezuidenhout, 2008). Weinberg (2002) describes addiction as arising from an overreliance on a coping strategy that is applied even in situations where it is not useful or adaptive, yet persists because it is selected as a strategy outside the conscious awareness of the user. One abiding conclusion that may stem from these conceptualisations is that addiction is a complex social phenomenon that results in both psychological and physiological dependence on a substance or activity (Bezuidenhout, 2008; Weinberg, 2002).

### **2.3 Defining behavioural addiction**

By the end of the 19th century, gambling addiction as a non-substance related or behavioural addiction and substance-related addictions such as alcohol, morphine and cocaine addiction were already prominent topics of research for many researchers (Clark & Calleja, 2008).

There have recently been extensive reviews regarding an adequate classification of behavioural addiction. Karim and Chaudhri (2012) report that many studies have suggested that a constellation of symptoms and impairment in functioning associated with behavioural disorders are simply symptoms of other disorders. Furthermore, there is a distinct possibility that adding more disorders to the DSM-5 (APA, 2013) may effectively dilute pathological behaviours.

Further concern exists regarding the underlying causes of addictive behaviour in general, which has made the clustering of behavioural addictions challenging (Czincz & Hechanova, 2009). Czincz and Hechanova (2009) highlight that while some researchers argue that possible behavioural addictions such as PIU lack a physiological component,

others have highlighted the similarity in the activation of reward pathways in the brain between substance and behavioural addictions. This debate becomes complex in the case of behavioural addictions since they do not involve the physiological ingestion of a substance that chemically alters the body. Shaffer, Hall and Vander Bilt (2000) posed the question that succinctly summarises the ongoing debate regarding behavioural addictions: “even if a behaviour pattern is identified as an addiction, how do we know that addiction is the best explanation for the behaviour pattern? (p. 162)”

Previously, disorders such as pathological gambling and kleptomania were viewed as impulse control disorders. The impulsive behaviours were accepted as psychiatric disorders under the DSM-IV-TR (APA, 2001). However, although they were grouped together in the same diagnostic category, there are striking differences as well as similarities between these disorders. A similarity exists in that an impulse-control disorder is one in which the individual experiences a failure to resist an impulsive act or behaviour that could be harmful to themselves or to others (Cohen, Highman & Cavaliere, 2011). The impulsive behaviour can therefore be considered one that the individual has little or no control over as the behaviour is not predetermined or considered in advance. Clark and Calleja (2008) explain that this element is present in behavioural addiction as the addiction involves satisfying short-term pleasure at the expense of long-term negative consequences.

A common dynamic of behavioural addictions is the repetitive routine of involvement with a specific behaviour that has the potential to become maladaptive. Thus, there may be similarities between the addictive behaviour and normal repetitive routines such as jogging, gardening and socialising (Clark & Calleja, 2008). One difference exists in that these latter behaviours are not generally maladaptive. Therefore, it is noteworthy to add that not every excessively performed behaviour is an addictive behaviour.

Griffiths (1996) highlights that even though behavioural addictions and the associated features may be seen as negative, there are positive benefits. These positive experiences are identified by the changes of mood including feelings of escape, positive experiences of pleasure and/or excitement, as well as relaxation, disinhibition and the culmination of a source of identity (Griffiths, 1996).

Elliott (1994) further conceptualises the element of mood regulation as a means of temporary filling a vacuum or empty feeling experienced by the individual. An example can be the playing out of fantasy such as that of the life of pathological gaming. Nixon and Solowoniuk (2009) propose that a hero complex may be present. The path of being a hero through experiencing the behaviour can reward the individual with status, admiration, and self-respect; more importantly, a pseudo-identity is identified. Pathological gamers, for example, may have within them a hero complex that moves between seeking success while playing the game in order to hold a sense of self that outwardly displays confidence, and a self that may internally feel weak. Therefore, the pseudo identity may suppress cognitive distortions about the self that include self-doubt, low self-efficacy and negative self-appraisals. The individual's attachment to the behaviour is one in which the behaviour can be viewed as potentially addictive (Nixon & Solowoniuk, 2009).

Technology has become an increasingly pervasive part of our lives, with the potential to reach virtually every area of our lives, including our careers, personal lives, leisure activities, spiritual development as well as intimate and family relationships (Murray & Campbell, 2015). As a result of the ever-growing influence of technology on human nature, models of behavioural addiction have been applied to the overuse of technological devices such as the television and computer (Czincz & Hechanova, 2009). Currently, the DSM-5 (APA, 2013) has incorporated the classification of non-substance related behavioural addiction. Pathological gambling is presently the only disorder classified under this

category in the DSM-5 (APA, 2013). Furthermore, the DSM-5 (APA, 2013) has recommended further investigation into assessing Internet Gaming Disorder (IGD) as a non-substance related disorder.

Many behaviours are a part of everyday life and do not necessarily have a negative impact on an individual in the ordinary course of events. There is, however, growing literature which views a number of behaviours as potentially addictive, including many behaviours which do not involve the ingestion of a drug (Young, 2004). These include behaviours as diverse as gambling, overeating, sex, exercise, videogame playing and Internet use. Thus, it is not the object that determines the addiction but a particularly intense and rigid relationship between the individual and the activity of choice (Keane, 2004).

### **2.4 Problematic Internet use**

The focus of this section is to provide insight into the emerging phenomenon of Internet addiction. The phenomenon of PIU will be explored as PIU provides an in-depth understanding of online behaviour present in the lived experiences of the participants of the present study.

**2.4.1 Exploring problematic Internet use.** The most significant innovation of the 20th century has been the invention and development of the Internet. The Internet has become an integral part of modern life for many people (Young, 2004). The Internet established itself as a mainstream communication vehicle by 1995 (Shaffer et al., 2000). Throughout the years, the function of the Internet as well as the number of users has grown exponentially (Young, 2004).

Once confined to a stationary desktop, the Internet is now accessible from smart phones, laptops, tablets game consoles and other electronic devices. According to Young (2004), the Internet can be seen as a neutral device that was originally designed to facilitate



research among academic and military agencies. However, this device has become an immediate way for people to explore information and communication for academic and occupational purposes to personal entertainment (Ko et al., 2010).

While there are many positive aspects of the Internet, there are also mounting concerns with regard to problematic behaviours associated with excessive use (Griffiths & Davies, 2005). The Internet has provided society with many benefits in the pursuit of information and interaction in the virtual world (Byun et al., 2009). It provides an easy and immediate way for people to explore information and communicate, and it connects people from all spheres of the world (Ko et al., 2010). However, as much as this benefits society, the Internet may also provide a threatening environment and expose individuals to great risk, especially if an excessive amount of time is spent online (Ko et al., 2010). On a societal level, theorists have argued that while providing increased opportunity for communication, the Internet is actually a socially impoverished medium that disengages users from their own community (Warden, Philips & Ogloff, 2004).

Problematic internet use (PIU) is a phenomenon that has been in existence for many years. The earliest reports on this phenomenon date back to the 1970's when scientists and academics began to express their concerns regarding the overuse of the computer (Pontes & Griffiths, 2014). The existence of PIU as a distinct disorder was first proposed in 1995 by Ivan Goldberg who used the term Internet addiction (Warden et al., 2004). However Kimberly Young was the first to describe excessive and problematic Internet use as an addictive disorder. Young's pioneer studies on PIU and its introduction at the annual meeting of the American Psychiatric Association in 1996, sparked a controversial debate among both clinicians and academics on the existence of PIU (Young, 2004).

In recent years PIU has become a rapidly growing phenomenon (Young, 2004). Young (1998) highlights that the excessive use of the Internet has become increasingly

prevalent within society and researchers have begun to acknowledge that people can form addictions to more than physical substances. According to Shaw and Black (2008), there are many definitions available for PIU, Internet addiction being the most common term used amongst researchers (Byrun et al., 2009; Shaw & Black, 2008; Young, 2004). The DSM-5 (APA, 2013) does not include Internet addiction as a proposed or classified disorder. However, the DSM-5 (APA, 2013) does include the proposed diagnosis for IGD (Appendix A). For the purpose of the present study the researcher will use the term PIU as it does not assume the idea that the excessive use of Internet has been formally classified as an addiction.

Problematic Internet use (PIU) is characterised by excessive or poorly controlled preoccupations, urges or behaviours regarding computer use and Internet access that leads to impairment or distress (Shaw & Black, 2008). Byun et al., (2009) defined PIU wherein an individual is addicted when his or her psychological state, which includes both mental and emotional states, as well as their scholastic, occupational and social interactions, is impaired by the overuse of the medium. Even though there is no universally accepted definition of PIU, researchers seem to agree that it involves problematic computer usage that is time-consuming and causes distress or impairs functioning in important life domains (Chakraborty, Basu, & Vijaya Kumar, 2010).

Young (1998) concluded that PIU can be divided into five subtypes depending on the particular reason for Internet use. Cybersexual addiction refers to an individual who is typically engaged in viewing, downloading and trading online pornography, or is involved in adult fantasy role-play chat rooms. Cyber-relational addiction occurs in individuals who become overly involved in online relationships or may engage in virtual adultery. Online relationships become more important than real life ones and marital discord and family instability may become prevalent. Net compulsions includes a broad category of

behaviours, including online gambling, shopping or stock trading. Significant financial losses may result, as well as relational and job disruptions. Information overload refers to a compulsive behaviour that involves excessive web surfing and database searches. These individuals spend a disproportionate amount of time searching for, collecting and organising information. Computer addiction occurs when the individual becomes addicted to playing computer games at the cost of work performance or family obligations (Chakraborty et al., 2010; Shaw & Black, 2008; Young, 1998).

The typology put forth by Young (1998) has its own limitations. One of the issues raised by this conceptualisation was that many of the addicted users are not necessarily Internet addicts, but rather use the Internet as a medium to fuel other addictions (Griffiths, 2000), for example, a gambling addict or a computer game addict who engages in their chosen online behaviour. It can be concluded that these users are not necessarily addicted to the Internet since the Internet is just the medium by which they engage in their chosen behaviour. The Internet is the medium that enables the individual to continue with their addiction in a virtual space encapsulated away from family and friends who have expressed concern regarding this behaviour (Griffiths, 2000). Scientific understanding regarding PIU has lagged behind because of the lack of a common understanding and consistency of terminology (Shaw & Black, 2008).

**2.4.2 Incidence.** The growth of Internet usage worldwide has been exponential (Morahan-Martin, 2005). To date, it is difficult to make reliable prevalence estimates because assessment of potential Internet addiction has varied regarding populations studied and instruments used (Kuss, Shorter, van Rooij, Griffiths & Schoenmakers, 2013). According to Internet World Stats (2012), the world's population consists of 7 billion people of whom 2.3 billion are Internet users, and between 2000 and 2011 there has been a 538 percent growth rate of Internet users worldwide. According to Young (1998), the

emergence of PIU should be of no surprise as people live in an era that celebrates technology. Young (1998) further stated that it is natural for people to feel compelled to explore these new technological developments and overindulge whilst on the Internet, which provides its users with immediate delivery of anything they desire, coupled with the ability to instantly leave behind anything that may be of little interest or tiresome.

According to Block (2008) some of the most interesting research on PIU has been published in South Korea. After a series of 10 cardiopulmonary-related deaths in Internet cafés and a game-related murder, South Korea considers PIU one of its most serious public health issues. Using data from 2006, the South Korean government estimates that approximately 210,000 South Korean children (between the ages of 6 and 19) are afflicted and require treatment. Since the average South Korean high school student spends about 23 hours each week gaming, another 1.2 million are believed to be at risk for addiction and to require basic counselling. Block (2008) further stated that China is also greatly concerned about problematic use of the Internet. It was reported that 13.7 percent of Chinese adolescent Internet users meet Internet addiction diagnostic criteria, that is, approximately 10 million teenagers. As a result, in 2007 China began restricting computer game use; current laws now discourage more than three hours of daily game use.

International estimates for children's PIU vary widely, with European prevalence reported at between one and nine percent, Middle Eastern prevalence at between one and 12 percent, and prevalence in Asia reported between two and 18 percent. However, these estimates must be interpreted with caution, as varying scales with questionable validity and conflicting reports make true generalisations difficult (Weinstein & Lejoyeux, 2010). Furthermore, there is difficulty in conceptualising PIU, lack of availability of standard diagnostic criteria, lack of heterogeneity of the populations studied, and failure to consider psychiatric co-morbidity (Chakraborty et al., 2010).

Research into the area of PIU within a South African context is lacking. A study conducted by Thatcher, Wrentschko and Fisher (2008) noted that the incidence of PIU among South African technology workers is 4% (compared to the 2% of a control group of non-IT workers). Therefore it is noted that currently in South Africa there are individuals who experience maladaptive Internet behaviour. Thacher and Goolam (2005) conducted a descriptive, exploratory study assessing the extent of PIU in the South African population. The results of the study indicated that the prevalence of PIU within a South African context is relatively low (between 1.67% and 5.29%), compared to the prevalence rates in other countries. Furthermore, the study found that the demographic profile of the South African problematic Internet user correlated with the demographic profiles from other international studies in terms of the problematic Internet user being a young male, who spends a considerable amount of time online using interactive Internet applications (Thacher & Goolam, 2005).

Based on data from community online surveys as well as clinical samples, PIU appears to have a male preponderance (Chakraborty et al., 2010; Shaw & Black, 2008). However, Young (1998) found that 61 percent of respondents to a survey were women. Young (1998) also stated that although women may be more likely than men to participate, it was clear that the old computer-nerd stereotype does not fit the Internet world. According to Shaw and Black (2008), the gender distribution may be explained by the fact that men are more likely to express interest in games, pornography and gambling activities that are associated with PIU. Young (1998) found a high degree of stereotypical gender differences. Men generally appeared to be seeking power, status, and dominance. They gravitated more toward the sources of information overabundance, aggressive interactive games and sexually explicit chatrooms and cyberporn. Women embraced the chat rooms as a means to form supportive friendships, seek romance or complain about their partners.

Women also enjoyed the comforting realisation that no one they encounter online knows what they looked like. The issue of gender differences is not yet clarified, although the literature suggests a male preponderance (Shaw & Black, 2008).

While studies confirm that there are many people who endorse PIU, its true prevalence is unknown (Shaw & Black, 2008). Ultimately, to determine an accurate prevalence of clinically significant PIU will require an agreement on diagnostic criteria (Young, 2006). Nonetheless, the studies that have been carried out indicate that approximately six to 14 percent of individuals who use the Internet may have PIU. Problematic Internet users cut across age, gender, social, and educational lines (Young, 1998).

**2.4.3 Clinical picture.** The Internet is a highly promoted technological tool, making detection and diagnosis of addiction difficult. The accurate diagnosis of PIU is often complicated by the fact that there is currently no accepted set of criteria for PIU listed in the DSM-5 (APA, 2013; Young, 2004). Furthermore, there are no diagnostic instruments for PIU that show adequate reliability and validity across countries (Weinstein & Lejoyeux, 2010).

Addiction of any kind is traditionally associated with an uncontrollable urge, often accompanied by a loss of control, a preoccupation with use, and continued use despite problems that accompany the behaviour (Clark, 2011). Abuse is considered a milder form of addiction that can also preoccupy and create problems for the user, but the user has more control over the behaviour and is better able to set limits and regulate use (Young, 2004). Both addictions and abuse of the Internet can result in consequences. For example, a student who obsessively chats with friends at school takes away from valuable study time resulting in poor academic performance. An employee who looks at online pornography during working hours takes away from overall job productivity and his or her actions can

even lead to job loss. Neither examples demonstrate a complete lack of control characteristic of addiction, but both examples do briefly illustrate how even general patterns of Internet abuse can lead to serious problems for the individual (Young, 2004).

Conceptually, Block (2008) highlights that the diagnosis is a compulsive-impulsive spectrum disorder that involves online and/or offline computer usage and consists of at least three subtypes including excessive gaming, sexual preoccupations and e-mail/text messaging. According to Block (2008), four components have been suggested as essential to the diagnosis of PIU. These include excessive Internet use, often associated with a loss of a sense of time or neglect of basic drives; withdrawal, including feelings of anger, tension and/or depression when the computer is inaccessible; tolerance, including the need for better computer equipment, software, or more hours of use, and adverse consequences including arguments, lying, poor school or vocational achievement, social isolation, and fatigue. In contrast, Pies (2009) suggests that it is not clear whether PIU usually represents a manifestation of an underlying disorder or is truly a discrete entity.

Davis (2001) distinguishes between Specific Pathological Internet Use (SPIU) and Generalized Pathological Internet Use (GPIU). The former (SPIU) refers to the condition in which an individual manifests pathological use of the Internet for a particular purpose, such as online sex or gaming. Davis (2001) argues that these specific behaviours would likely be displayed in another context if the Internet did not exist or was unavailable. Thus SPIU is related to only one aspect of the Internet and exists entirely independently of multiple Internet functions. Davis (2001) supports the view that for some people the Internet is merely a vehicle for expressing an individual's dependence upon various stimuli. Generalised Pathological Internet Use (GPIU) describes a more general, multidimensional overuse of the Internet; that is, behaviours that could not exist outside the realm of the Internet (for example, the use of many different online applications).

Furthermore, GPIU appears to be more related to the social aspect of the Internet, such as chat rooms, web surfing, and emailing.

Most of the studies on PIU have adapted the DSM-IV (APA, 1994) and DSM-IV-TR (APA, 2001) criteria for substance abuse/dependence and later pathological gambling (Warden et al., 2004). According to Young (2004), PIU was most akin to pathological gambling, an impulse control disorder, since many problematic Internet users demonstrated similar symptoms of addiction including preoccupation with the behaviour, loss of control over the behaviour, and functional impairment. Young (1998) modified the DSM-IV (APA, 1994) diagnostic criteria for pathological gambling to construct diagnostic criteria for PIU, which she defined as five or more of the eight characteristic symptoms present in the preceding six months (Chakraborty et al., 2010). These symptoms include preoccupation with the Internet, the need for an increased amount of time spent on the Internet, repeated unsuccessful efforts to stop or cut back on Internet use, use of the Internet as a way of escaping from problems or relieving dysphoric mood, feelings of restlessness, moodiness, depression, or irritability when attempting to stop or cut back on Internet use, staying online for long periods of time, lies to family members about involvement in Internet use, and jeopardising or losing significant relationships, job, or educational or career opportunities due to Internet use (Young, 2004).

The diagnostic criteria suggested by Young (2004) has been critiqued by other researchers who state that the transporting of existing criteria for a solitary activity such as gambling directly to a social medium such as the Internet appears arbitrary and is not based on scientific evidence (Czincz & Hechanova, 2009). One concern, according to Beard and Wolf (2004), is how objective the criteria are and how much of the criteria is based on self report. Some of the criteria such as preoccupation with the Internet or feelings of restlessness, moodiness, depression or irritability, can be reported or denied by a client and



could influence the accuracy of the diagnosis. Moreover, the client's judgment may be impaired and self-reported information may not be accurate (Beard & Wolf, 2004). Further criticism is that the symptoms of PIU may be masked by the cultural norms that encourage and reinforce its use. That is, even if a person meets all eight criteria, signs of abuse can be rationalized away; for example, the individual may justify use by saying that they need the Internet for their job, when in reality, the Internet is causing significant problems in the user's life (Young, 2004).

Several screening instruments have been developed to assess PIU, although none have emerged as the conclusive standard of measurement (Shaw & Black, 2008). Studies on PIU most often appropriately employ Internet survey methods (Byun, et al., 2009). According to Weinstein and Lejoyeux (2010), the most commonly used questionnaire is Young's (1998) Internet Addiction Scale (IAT), which has been validated in the United Kingdom, the United States of America, Finland and Korea. The IAT was developed to help problematic Internet users, those who are not sure if they are Internet addicted or not and those who believe that they know someone who is pathologically using the Internet. Other measurements that are employed include the Chen Internet Addiction Scale (CIAS) which has been widely used in Taiwan; the Questionnaire of Experiences Related to Internet has been validated in Spain; the Compulsive Internet Use Scale (CIUS) in Holland; and the Problematic Internet Use Questionnaire (PIUQ) in Hungary (Weinstein & Lejoyeux, 2010). According to Weinstein and Lejoyeux (2010), the above-mentioned screening and diagnostic instruments have severe limitations in terms of applicability. Firstly, they are based on different theoretical frameworks, so there is limited agreement on the underlying dimensions that make up PIU. Secondly, most are self-reported instruments and hence dependent on the respondent honestly answering questions. Additionally, participants may not understand various questions or misinterpret the various

test items. Thirdly, none of them identify specific Internet applications (for example, chat rooms, email, pornography) to which the user might be addicted. Finally, a person may show addictive behaviours toward one application, but not others (Chakraborty et al., 2010; Weinstein & Lejoyeux, 2010).

It is noteworthy to point out that the full impact of PIU is difficult to ascertain because its many adverse consequences, such as social isolation, marital discord and financial problems, are concealed from public knowledge (Shaw & Black, 2008). Furthermore, there is much debate among researchers about whether to classify PIU as a psychiatric disorder in its own right. Pies (2009) highlights that classifying PIU as a disorder of behavioural addiction will encourage those with PIU symptoms to seek help and treatment. However, he further points out that by classifying PIU as a disorder of behavioural addiction (even if disapproved of) will pathologise what may be normal behaviour, further expanding on an already burgeoning catalogue of supposed disorders.

**2.4.4 Aetiology.** The dynamics of PIU are still to be defined. As research in the area evolves, a framework may evolve. Aetiology of PIU is often multi-factorial and involves many mechanisms (Shaw & Black, 2008). Most of the research that has been discussed regarding PIU appears to lack a theoretical basis as few researchers have attempted to propose a theory of the causes of PIU despite the number of studies conducted in the field (Chakraborty et al., 2010). Furthermore, research in this area is generally of a poor quality, with few studies using control groups, randomization or validated measures (Shaw & Black, 2008).

Young (1998) highlights the desire to escape as a causal factor related to PIU. According to Young (1998), the Internet user is trying to avoid something or someone he or she does not want to confront by turning to the faceless community, the Internet, for company, happiness or relief. Young (1998) found a clear pattern of escape emerging from

her survey and identified the various avoidances of the respondents, namely, loneliness, marital discontent, work-related stress, boredom, depression, financial problems, insecurity about physical appearance, anxiety, struggling with recovery from other addictions and limited social life. Morahan-Martin and Schumacher (2000) conducted a study that suggested that lonely individuals tended to have a higher preference for online interaction as they perceived the Internet as “socially liberating, the Prozac of social communication” (Morahan-Martin & Schumacher, 2000, p. 26). The Internet provides them with an ideal environment to interact with others as it allows for greater anonymity and greater control over social interaction since no immediate response is required. The anonymity provided online is liberating for individuals who are lonely and some individuals even take on different identities and gender types while online (Joinson, 2001).

Young (1998) identified three distinct phases that Internet users tend to experience on the road to addiction. During the first phase, namely engagement, a person gains access to a computer and learns about the Internet. Within hours, the individual discovers the online applications that are of their own personal liking and that pull them towards regular usage. The Internet user develops an identity online. The second phase, namely substitution, the individual plunges deeply into the Internet community whereby it becomes a substitute for what one couldn't possess or find in life outside of the Internet. Within months, the individual has found stimulation, secure attachment, and safety, and the Internet has become an irresistible stand-in. During phase three, namely escape, the individual turns to their substitute community more often and for extended periods of time. They feel calm, peaceful, and happy whilst online. The feeling they experience in the Internet community acts as a temporary antidote to any distress and numbs any pain. They begin to develop a dependency, escaping from the real world. Young (1998) stated that breaking Internet addiction means confronting the problem head-on.

Socioeconomic mechanisms have been proposed to recognise the fact that PIU occurs wherever computer usage is available (Shaw & Black, 2008). It would appear unlikely that PIU can occur in poorly developed countries where the availability of computers and Internet access are limited, except perhaps among those in the academic, business or government circles, or among the elite (Shaw & Black, 2008).

From the above-mentioned aetiological explanations, it is evident that none of these views are self-explanatory and a combination of them may enhance the understanding of this complex phenomenon to some extent (Chakraborty et al., 2010). According to Young (1998), it is essential to conduct further research in order to gain a better understanding about underlying motivations of PIU.

**2.4.5 Psychiatric co-morbidity.** The Internet is redefining how pathology is expressed as it provides a new channel for individuals to act out their pathologies (Morahan-Martin, 2005). Individuals who experience abuse of the Internet are more likely than others to have a number of other problems (Morahan-Martin, 2005). Yellowlees and Marks (2007) argue that it is unlikely that PIU exists as a disorder in its own right; instead, the Internet seems to act as a medium for other excessive behaviours and is largely being used only to facilitate these other behaviours. Griffiths (2000) further concurs that in the majority of cases the Internet seems to act as a medium for other excessive behaviours.

Yellowlees and Marks (2007) are of the opinion that some Internet users do develop problematic behaviour but most of these individuals are probably pre-morbidly vulnerable individuals who often have a history of impulse control and addictive disorders, and whose abnormal behaviour is a response to specific online content and activities. Morahan-Martin (2005) stated that those who abuse the Internet are more likely than others to exhibit disturbances in other areas of their lives including depression, bipolar disorder, sexual compulsivity, and loneliness. A number of studies have indicated high comorbidity of PIU

with psychiatric disorders, such as affective disorders, anxiety disorders and Attention Deficit Hyperactivity Disorder (ADHD) (Kuss et al., 2013). Shaw and Black (2008) further concur that mood, anxiety, attentional, as well as substance use disorders have been found to be co-morbid with maladaptive Internet use. This has stimulated debate regarding whether PIU is actually a symptom of other pathological disorders and about the cause and effect relationship between PIU and other disorders.

According to Young (1998) many individuals experiencing PIU suffer from significant emotional or psychiatric problems before going online. In a survey, Young (1998) found that 54 percent of individuals experiencing PIU reported a prior history of depression. Another 34 percent suffered from anxiety and others displayed chronic low self-esteem. In other studies, a high mean score on the Beck Depression Inventory was found among problematic Internet users (Chakraborty et al., 2010). It was found that German Internet-dependent students had a 78 percent rate of co-morbid depressive mood disorder and higher rates of impulsivity and depression (Weinstein & Lejoyeux, 2010). However, the cause and effect relationship of findings such as the higher incidences of loneliness and depression among problematic Internet users is still uncertain. The relationship may be bi-directional. Individuals who are lonely and/or depressed may turn to the Internet to alleviate painful feelings because they can find the companionship and support online that they lack in real life. Once online, they may find companionship, social support and a sense of fostering real-life contacts and support, which may aggravate negative affect when faced with reality offline (Morahan-Martin, 2005).

It remains uncertain whether PIU is a distinct disorder. There is limited evidence that people with pre-existing conditions may be turning to the Internet (Morahan-Martin, 2005). Young (1998) recommends that future research should focus on how psychiatric illnesses play a role in the development of PIU.

**2.4.6 Treatment.** The Internet is a highly promoted technological tool worldwide, making detection and diagnosis of PIU challenging. The lack of a uniform set criteria for PIU often complicates the diagnosis. Despite the diagnostic complications, there are clear consequences for excessive Internet use.

Yellowlees and Marks (2007) stated that individuals who spend too much time online tend to lose sleep, have decreased social communication, have problems in their interpersonal relationships and use the Internet as their primary means of alleviating stress and depression. Further consequences that occur along with generalised PIU include compulsive Internet use that leads to negative outcomes at work or school, denying or lying about Internet use, and using the Internet to escape from one's problems such as depression and loneliness. This results in a vicious dysfunctional cycle and, as symptoms worsen, it exacerbates existing psychopathologies (Shaw & Black, 2008).

There are no evidence-based treatments for PIU, yet both psychotropic medication and psychotherapy have been recommended (Shaw & Black, 2008). Furthermore, treatment programmes that specifically address PIU are gradually beginning to emerge (Young, 1998). The goal for Internet dependent individuals is to be able to use computers without becoming or remaining dependent on it as an escape from reality (Shaw & Black, 2008). There is general agreement that one should be cautious in diagnosing PIU as a behavioural addiction, however, those who are diagnosed should receive the benefit of whatever therapy is available (Chakraborty et al., 2010).

Currently, treatment for PIU is most often based on interventions and strategies used for the treatment of substance use disorders. Psychosocial approaches are the foundation of treatment, with very little focus on pharmacological treatment (Weinstein & Lejoyeux, 2010). The lack of methodologically adequate research makes it impossible to recommend any evidence-based treatment for PIU (Weinstein & Lejoyeux, 2010). Young (1998)

recommends that researchers should undertake studies to determine the efficacy of various forms of therapy and to compare these outcomes with more traditional methods of recovery.

### **2.5 Models of addiction**

Mutual understanding regarding the term addiction is complicated by the lack of one accepted and comprehensive theory of addiction. There is currently no universally accepted theory of addiction. Griffiths (2002) reports that addiction is a multifaceted behaviour that is strongly influenced by contextual factors that cannot be encompassed by any single theoretical perspective. Therefore, developing an understanding of addiction is achieved through the review of addiction models (Coombs & Howatt, 2005).

The extension of the model of addiction from substances to behaviour has been a topic of much debate. There have been questions regarding the appropriateness of the drug addiction model to explain habitual or compulsive behaviour (Morahan-Martin, 2005). However recent scientific evidence suggests that it may be possible to experience habit-forming chemical reactions to behaviour as well as substances (Young, 1998). In non-substance-related addiction, even though no external psychotropic substances are consumed, the psychotropic effect consists of the body's own biochemical processes induced by the excessive activity (Clark & Calleja, 2008). Clark (2011) points out the need to widen the view of the construct of addiction to allow for the inclusion of non-substance behaviours as addictions.

The following section will explore the various models of addiction with specific reference to MMOGs as a form of PIU. An exploration of these models of addiction will provide further insight into the phenomenon of the present study.

**2.5.1 Biological models of addiction.** The biological models of addiction focus on physiological factors that influence substance related problems. In relation to the present study, biological models of addiction will focus on physiological factors that cause or have an influence on PIU with MMOGs as a form of online gaming.

The medical model, which is also known as the disease model, defines an addiction as a disease that is harmful and possibly fatal due to an individual's loss of control over the use of a specific substance (Coombs & Howatt, 2005). The medical model acknowledges that the addiction may abate, but concludes that there is no cure for the disease and that optimal treatment requires complete abstinence (Coombs & Howatt, 2005).

The genetic model proposes that individuals who develop an addiction have a genetic predisposition towards the maladaptive behaviour. Coombs and Howatt (2005) discuss how the model focuses on the cause of addiction and proposes that addictive behaviours are embodied in an individual's genes. This model was supported by Blume (1994) who proposed that a lack of D2 receptors cause individuals to seek pleasure-generating activities, placing them at high risk for multiple addictive, impulsive and compulsive behaviours, including behavioural addictions (such as online gambling and online gaming). Thus, the genetic composition makes the individual vulnerable to addiction if the individual is exposed to the correct circumstances (Gegoire & Jungers, 2007).

The biomedical model integrates biological and behavioural factors in understanding addiction. This model holds that the repeated use of drugs alters the brain structure and functioning. These changes result in the individual engaging in behaviour, identified by the brain, to avoid any unpleasantness caused by withdrawal. This can further be explained through the incentive sensitisation theory. The incentive sensitisation theory (Robinson & Berridge, 2008) proposes that the repeated activation of the reward circuit in the brain



causes neurological changes in the brain that biases attention and motivation toward the use of a drug. If natural or behavioural reinforcers are found to activate the reward circuitry of the brain, then, in theory, they could produce the same changes in motivation and attentional processes, as observed with repeated use of drugs of abuse (Robinson & Berridge, 2008).

Holden (2001) highlighted that PIU, as with MMOGs, may lead to the same physical dependence seen in drug addiction and substance abuse. The individual engages in the behaviour, identified by the brain, to avoid unpleasantness caused by withdrawal (Coombs & Howatt, 2005). This observation suggests that the individual's online experience may change brain structure and function, and related cognitive processes, in a manner that may perpetuate the Internet use (Holden, 2001).

**2.5.2 Psychological models of addiction.** Psychological models of addiction attribute the development of behavioural addictions (such as PIU with MMOGs) to the personal characteristics of the individual. The psychodynamic perspective, for example, conceptualises addiction as a group or cluster of unconscious needs that stem from socially unacceptable desires or previous traumatic experiences for which the individual wishes to avoid assuming responsibility (Wanigarate, 2006). The individual's inability to address or manage painful feelings motivates the individual to become consumed by their massively multiplayer online gaming behaviour, and views the activity as a form of self-medication or self-therapy (Wanigarate, 2006).

Davis (2001) has proposed a model of addiction that is rooted mainly in the cognitive-behavioural approach. Davis (2001) specifically applied this model to PIU with MMOGs. The model identifies two types of maladaptive cognitions namely, thoughts about the self and thoughts about the world. In relation to PIU with MMOGs, the thoughts about the self include self-doubt, low self-efficacy, and negative self-appraisal. The

individual has a negative view of the self and uses MMOGs to achieve positive social interactions and feedback from others. Cognitive distortions about the world involve generalising specific global trends (for example, only feeling safe with online communication). These two cognitive distortions are triggered by stimuli associated with the Internet and maintain excessive behavioural patterns of PIU with MMOGs (Davis, 2001).

According to Davis (2001) this theory of PIU with MMOGs is different from other theories in that it emphasises the individual's cognitions (or thoughts) as the main source of abnormal behaviour, whereas the most prominent symptoms of PIU with MMOGs had generally been considered to be affective or behavioural. Davis (2001) stated that cognitive symptoms of PIU with MMOGs may often precede and cause the affective or behavioural symptoms rather than vice versa. The model proposes that maladaptive cognitions are critical to the development of generalised PIU behaviours with MMOGs. As such, the symptoms are obsessive thoughts about the MMOG, diminished impulse control related to the MMOG, inability to stop playing the MMOG, and feeling that the other players of the MMOG are an individual's only friends. Other symptoms of PIU with MMOGs include thinking about the MMOG while offline, anticipating future time playing MMOGs, and spending large amounts of money on buying new MMOGs (Davis, 2001). Davis (2001) stated that PIU in general presents a great danger to society. Without the Internet, people would not be engaging in such maladaptive behaviour (Shaw & Black, 2008).

According to Chakraborty and colleagues (2010), while this hypothesis needs to be proven through systematic research, it is however, interesting at a theoretical level. Davis' (2001) cognitive behavioural theory of PIU with MMOGs represents what is probably the most encompassing theory of PIU to date. However, it could be argued that cognitive

behavioural theory's reliance on pre-existing psychopathology discounts the existence of PIU altogether (Warden et al., 2004).

Orford (2001) developed the excessive appetite model of addiction that conceptualises substance misuse as a collection of behaviours that are fuelled by an excessive appetite. The model emphasises the importance of how addictive behaviours occur through personal inclinations. The addiction is perceived as a breakdown of restraint and the subsequent development of attachment to drug-taking behaviour that is characterised by the individual's internal conflict, decision making and sense of control (Wanigarate, 2006). The massively multiplayer online gaming behaviour is viewed as serving a purpose such as mood modification, tension reduction or a form of self-expression (Orford, 2001).

Wise's Two Factor Model (1988) highlights the concept of enhancement and coping as psychological motives in the understanding of pathological massively multiplayer online gaming behaviour. Wise (1988) proposed that addiction involves both negative and positive reinforcement. Whilst MMOGs do not involve the use or abuse of a particular substance, both pathological gamers and those with a substance addiction are preoccupied with engaging in an addictive behaviour and achieving the desired state of being. The positive reinforcement consists of experiencing a sense of pleasure, whilst the negative reinforcement consists of experiencing intense distress and sadness. These two processes are seen as operating concurrently to maintain the PIU with MMOGs (Wise, 1988).

The theory hypothesises that either reinforcement, whether positive or negative, results in a craving for the substance. Hence, in the context of PIU with MMOGs, the individual craves the excitement and sense of euphoria when engaging in the activity which in turn creates a sense of sadness or distress when the online gaming activity is over. The individual may at this point have to spend a substantial amount of time and/or money to

achieve the desired state of excitement which could exacerbate the level of distress or sadness. Wise (1988) hypothesises that either the positive or negative reinforcement results in cravings; it would thus seem inadequate to treat the withdrawal symptoms of addiction, the negative symptoms, without addressing the positive reinforcing properties of the substance use/activity engagement.

**2.5.3 Social models of addiction.** Social models of addiction emphasise the role of an individual's environment in the development of maladaptive massively multiplayer online gaming behaviour. The life-process model views addiction as a habitual process that an individual engages in to achieve a sense of security and gratification. This model fundamentally emphasises the role of an individual's social context and experiences which impact on the individual's habitual engagement with a substance of choice (Karr, 2007) or, in this case, a behavioural addiction.

A similar model is the social model of addiction which emphasises the role of disruptive social forces in the development of an addiction. These forces include social conditions such as unemployment and poverty which make individuals vulnerable to the excessive use of substances. The social model attributes the development of an addiction to social influences that prevent or promote certain behaviours (Greene, 2008). Griffiths (2010) highlights the influence of an individual's social context and suggests that excessive online gaming can be symptomatic of an unstimulating environment. Thus PIU with MMOGs may be a result of the need for entertainment due to a lack of daily activities such as unemployment.

Bandura's (1977) social learning theory highlights a four stage process through which behaviour is acquired. Initially the individual observes the behaviour of family or peers and later recalls the behaviour that has been modelled. The individual then imitates such behaviour and through internal forces becomes motivated to continue the behaviour

that has been learnt. For example, the individual playing MMOGs observes excessive online gaming behaviour from family or friends which motivates the individual to continue similar behaviour. The social learning theory emphasises the role of reinforcement on an individual's anticipation, planning, expectancies, self-efficacy as well as decision making that promotes addictive behaviour (Wanigarate, 2006).

The social skills deficit theory is an explanatory theory based on the assumption that lonely and depressed individuals hold negative views of their social competence (Joinson, 2001). The theory specifically relates to PIU with MMOGs by proposing that problematic psychosocial predispositions cause individuals to gravitate towards excessive and compulsive computer-mediated (CM) social interaction, which in turn increases their problems (Joinson, 2001). There are several features of computer-mediated communication that are particularly attractive to individuals who see themselves as low in social competence. Computer-mediated communication interactions provides individuals with greater flexibility in self-presentation than in face-to-face communication, which in turn facilitates the individuals' ability to withhold or edit information about themselves that they regard as negative (Yellowlees & Marks, 2007). There is also a greater opportunity to fabricate, exaggerate, or intensify the positive aspects of one's self. Therefore, for some individuals MMOGs signify a place where they can control the impressions others have of them. A preference for online social interaction may stem from one's belief that computer-mediated communication is easier (for example, it requires less interpersonal sophistication), less risky (for example, greater anonymity), and more exciting than face-to-face communication (Shaw & Black, 2008). Although this theory attempts to explain PIU with MMOGs in a subgroup of individuals, it does not account for the whole phenomenon (Chakraborty et al., 2010).

**2.5.4 The biopsychosocial models of addiction.** The biopsychosocial model views addiction as an intricate and complex interaction between an individual's biological status, psychological status, and social dynamics (Coombs & Howatt, 2005). Biological factors incorporated into this model include genetic predispositions, the physical characteristics of the individual, and the physiological reactions to the substance or behaviour. Psychological facets identified by the model include an individual's cognitions, emotions, and motivation that are reflected in the individual's behaviour. Social factors refer to the external systems with which the individual interacts (Sarafino, 1990).

The biopsychosocial framework emphasises that the relationship between factors is reciprocal and multi-directional. Thus any change that occurs in one facet can resonate throughout the system and subsequently be influenced by changes occurring in other areas (Taylor, 1995). The model views the individual's behaviour as intentional and purposive, and acknowledges that such behaviour may be self-destructive. The model also emphasises the importance of distinct events and the meaning of such events to the individual (Taylor, 1995).

Griffiths (1991) developed a biopsychosocial components model of addiction. This model postulates that both substance-related addictions and behavioural addictions (such as PIU) develop via similar biopsychosocial processes and share a number of characteristics, most notably the addiction criteria consisting of salience, mood modification, tolerance, withdrawal, conflict and relapse (Brown, 1993; Griffiths, 1996; Griffiths, 2005). To measure PIU with MMOGs, some studies have utilised and modified Griffiths' (1991) component model of addiction (Brown, 1991; Lemmens, Valkenburg, & Peter, 2009; Zhong & Yao, 2013). These components are described in more detail below.

The first component is salience which refers to the developmental stage when a particular activity becomes the most prominent and important activity in an individual's life (Griffiths, 2005). Salience indicates that the individual is preoccupied with the behaviour on a number of levels, including cognitively (one's thinking revolves around the behaviour), emotionally (craving for the substance/ behaviour) and behaviourally (other behaviours, such as social interactions, are neglected) (Kuss et al., 2013). The person becomes preoccupied with the activity and their cognitions are focused on when next they will be able to engage in the activity again. An individual who experiences PIU with MMOGs may constantly think about the next time they are going to play MMOGs, crave for logging onto their favourite games, and sacrificing social interactions for being online (Kuss et al., 2013). It is important to note that some addictive behaviours are considered functional such as smoking nicotine which is an activity that can be engaged in concurrently with other activities and therefore may not tend to dominate an addict's thoughts or lead to a total preoccupation (Charlton & Danforth, 2007).

The second component, mood modification, occurs when the individual uses the substance or behaviour in order to reduce depressed moods and escape from reality (Kuss et al., 2013). In essence, many addicts use substances or behaviours as a way of producing a reliable and consistent shift in their mood as a coping strategy in order to make themselves feel better. The use of MMOGs makes the individual feel better and allows them to forget about their everyday problems (Young, 2004).

The third component is tolerance which denotes the requirement to increase the amount of engagement in the addictive behaviour to produce an experience similar to the initial behavioural engagement (Kuss et al., 2013). Griffiths (2005) provides an appropriate example explaining how tolerance in gambling may involve the gambler gradually having to increase the size of their bets to achieve the type of feeling they once

got from much smaller wagers. Tolerance is a well-established concept in psychoactive substance addictions and there is growing literature in the field of behavioural addictions (such as online gaming) to support this component (Lemmens et al., 2009).

Withdrawal symptoms, being the fourth component, refers to the unpleasant feeling states or physical effects that occur when a particular activity is discontinued or suddenly reduced. The withdrawal effects may be psychological or physiological (Griffiths, 2005). Withdrawal effects have been well documented with drug addictions (Orford, 2001) and there is growing evidence that behavioural addictions such as pathological gambling and PIU are also characterised by withdrawal symptoms (Griffiths, 2004). For individuals with potentially addictive use of MMOGs, physiological symptoms can include psychosomatic problems, weakening immunity and physiological dysfunction, whereas psychological symptoms most notably include depression and anxiety (Yen, Ko, Yen, Wu., & Yang, 2007).

The fifth component is conflict which refers to both the interpersonal conflict and intrapsychic problems that arise as a consequence of the addictive behaviour (Kuss et al., 2013). The individual may experience short-term pleasure and relief, but this often leads to a disregard of the adverse consequences and long-term damage which in turn increases the apparent need for the addictive activity as a coping strategy. Individuals with potential PIU with MMOGs may jeopardise their relationships with others for the sake of Internet use for online gaming, and may lose control over their usage, which can lead to both relational and internal conflict (Lui & Kuo, 2007).

Lastly, the component of relapse refers to the tendency for repeated reversions to earlier patterns of a particular activity to reoccur and for even the most extreme patterns typical of extreme addiction to be quickly restored after many years of abstinence or control (Griffiths, 2005). Individuals who experience PIU with MMOGs may be unable



to remain abstinent or to moderate their addictive behaviour (Griffiths, 1991; Murali & George, 2007).

There has been a substantial amount of support for Griffiths' (1991) biopsychosocial components model of addiction. Kuss and colleagues' (2013) support for the components model of addiction is encompassed in a number of studies assessing behavioural addiction such as exercise, online gaming, and social networking addiction (Kuss et al., 2013). Griffiths (2002) points out that all these components need to be present for a behaviour to be operationally defined as an addiction. Furthermore, there may be similarities between an addictive behaviour and normal repetitive routines such as jogging, gardening, and socialising. One difference is that such behaviour is not generally maladaptive. It is noteworthy to add that not every excessively conducted behaviour is an addictive behaviour, yet the potential for abuse should rather be viewed in the lived experiences of each individual. Thus it is not the object that determines the addiction but a particularly intense and rigid relationship between the individual and the activity of choice (Keane, 2004).

Similar to the components model of addiction (Griffiths, 2005), the syndrome model of addiction also explores a biopsychosocial view of addictive behaviours. A syndrome, according to Shaffer et al. (2004), is a cluster of symptoms and signs related to an abnormal underlying condition. Furthermore, not all symptoms or signs are present in every expression of a syndrome and some manifestations of a syndrome have unique signs and symptoms.

The syndrome model of addiction postulates that all addictions develop from similar distal antecedents that increase vulnerability, including biology and psychosocial context (Shaffer et al., 2004). More specifically, the model proposes that throughout the course of development, individuals encounter and accumulate specific combinations of

biological and psychosocial elements that can influence their behaviour. Some elements increase the likelihood of addiction, whereas other factors are protective and reduce the chances of addiction. Chang, Tsai and Chiu (2015) suggest that an individual who perceives a high level of well-being in his or her offline lives, often has less motivation to use the Internet for online discussions, personal expression, entertainment, and passing the time. Accordingly, perceived social support by the individual can be seen as a protective factor because the individual interaction with family members and friends are perceived as important (Chang et al., 2015). Thus, the individual will spend more time in real life than on the Internet when pursuing his or her social and entertaining activities.

In contrast, when an individual engages in repeated interactions with a specific object of addiction, and the biological or social consequences of these interactions produce a desirable shift, the premorbid stage of the addiction syndrome emerges. The desirable shift is requisite for the development of the addiction syndrome. During this stage of the syndrome, the individual may develop either more or less healthy behaviour (Shaffer et al., 2004).

Proximal antecedents such as specific negative events and/or the continued use of the psychoactive substance and/or engagement in the behaviour may lead to a change in the individual. Addictions can develop that differ in their expression (for example, drug addiction or Internet addiction), but share some essential domains, such as symptoms, addiction history, psychology, sociology, and treatment approaches. Moreover, addictions as such may not be specific to a particular object or behaviour and one substance or behaviour can be easily substituted by another one (Shaffer et al., 2004).

Further evidence for the syndrome model of addiction has accrued given that different forms of addiction share neurobiological similarities. Similarly, it appears that substance-related addictions and excessive Internet and gaming use share a variety of

neurobiological mechanisms (Kuss & Griffiths, 2012), such as a reward deficiency as a consequence of a lack of dopaminergic activity, resulting in the modification of brain structure and the consequent impairment of cognitive functioning as a consequence of the addiction (Liu & Kuo, 2010).

Taken together, the components and syndrome model of addiction contend that behavioural addictions do not rank behind substance-related addictions in terms of pathogenesis and phenomenological expression (Kuss et al., 2013).

### **2.6 Conclusion**

This chapter has highlighted the evolving view of addiction which includes an account of behavioural addiction. Emerging from this discussion was the literature surrounding the emerging phenomenon of PIU with MMOGs, specifically focusing on incidence, clinical picture, aetiology, co-morbidity and treatment. This chapter concluded with a discussion of the conceptual frameworks of theories that explore the phenomenon of PIU with specific reference to PIU with MMOGs.

Chapter three will continue with a review of literature, however, the focus will shift to a consideration of pathological online gaming behaviour. The various facets of PIU with MMOGs will be explored in order to create a deeper understanding of the phenomenon.

## Chapter 3

### Exploring Pathological Massively Multiplayer Online Gaming

*“Perhaps, people wondered, the human mind is just a programmed machine, much like a computer.”*

*(Sherry Turkle, 2011)*

#### 3.1 Introduction

The chapter begins with a description of Massively Multiplayer Online Games (MMOGs) as a form of online gaming worldwide. The history of online gaming and the evolution of MMOGs enriches the exploration of the contextual background of the present study and forms the back drop for understanding the development of MMOGs as a form of Problematic Internet use (PIU).

The chapter further explores the literature encompassing pathological massively multiplayer online gaming by taking into account the multiple facets associated with the development of PIU with MMOGs. The historical development and psychosocial motivators for PIU with MMOGs will be explored in order to expand the understanding for motivation behind the problematic use of this specific form of online gaming. Emphasis is placed on factors such as personality, clinical characteristics, clinical representation, differential diagnoses, course, outcome, as well as the treatment and prognosis of PIU with MMOGs. Current literature is explored in order to enrich understanding of PIU with MMOGs and to add to the body of knowledge of PIU with MMOGs within a South African context.

### 3.2 Defining massively multiplayer online games

MMOGs are games played over some form of network, typically the Internet, constituting of mechanisms for connecting players (VanCott, 2008). The term massively multiplayer refers to the millions of people simultaneously playing online games at, any time, both day and night (Chan & Vorderer, 2006). The MMOGs are advanced social virtual worlds, into which the player is socialised through signs, codes, and roles (VanCott, 2008). Online games can be grouped into first-person shooter games, real-time strategy games, cross-platform online play, Multi-user dungeons/domains, and role-playing games (Yee, 2007).

With technological innovations, advanced social online games such as MMOGs have been made possible and have impacted upon the rapid momentum towards a more digitalised world (VanCott, 2008). According to a report by Entertainment Software Association (ESA, 2013), 59% of the American population play video games, with a mean average of two gamers in each game-playing household. The ESA report also notes that among US households, 68% play video games on consoles, 53% play on smart phones, and 41% on wireless devices. While traditional video games were created to end at some point or become repetitive for the gamer, the MMOGs are endless and continue online even after the player has logged off their computer (Young, 2009).

### 3.3 The evolution of massively multiplayer online games

The first commercial video game was released in the early 1970's with the advent of first-generation video game consoles and home computers (Pontes & Griffiths, 2014). In the 1980s, games such as Space Invaders, Pac Man, and Donkey Kong were popularized. These were single-player games against the computer and improvement in the game only meant a high score and development of the gamers' eye-hand coordination

(Yee, 2007). By the 1990s, gaming evolved from single-player games to gaming experiences and gamers could become immersed in a virtual world that they helped to create (Young, 2009). Games such as Doom and Quake were introduced that allowed players to create new rooms, customise their characters and specify the kinds of weapons used (Yee, 2007).

By the late 1990s, the gaming industry became popularised and the introduction of three dimensional (3D) graphics for online games created a wide appeal for MMOGs (VanCott, 2008). The inclusion of 3D graphics in online games meant that the graphics of the game provided a perspective closer to reality experience. Manufacturers such as Sony and Microsoft developed more sophisticated and interactive features into their games and the technology has become much more portable and mobile, making online games continuously accessible (Young, 2009). Online games evolved into more than just games, but rather into living, self-contained three-dimensional societies (Young, 2009). When the popular MMOG, World of Warcraft, launched in 2004 with 3D graphics, it attracted several times more users than what similar online games had attracted in the past (VanCott, 2008). These technological innovations have played a crucial part in the birth of problematic online behaviour (Cooper, 1988).

According to Ghuman and Griffiths (2012), three types of MMOGs predominate: Massively Multiplayer Online Role-Playing Games (MMORPGs), Massively Multiplayer Online First-Person Shooter (MMOFPS) games, and Massively Multiplayer Online Real-Time Strategy (MMORTS) games. In MMORPGs, the gamers choose their own cast and in this way define their skills and role in the game. Missions completed in the game provide possibilities for improvement and for acquiring valuable objects that differentiate gamers (Shin, 2010). The MMORPGs are one of the fastest growing form of online games available worldwide. The appeal of MMORPGs, according to Moon,

Hossain, Sanders, Garrity and Jo (2013), is that the game player has control over his or her character and determines the character's actions throughout the game. The MMOFPS games are usually skill-based action games because they utilize primarily the person's reaction time and attention skills. These games offer many opportunities for gamers to compete with each other individually or in teams (Ghuman & Griffiths, 2012). In MMORTS games, gamers coordinate troops or teams, develop their specialty areas or ally with other players in order to gain higher status in the game in the name of an important figure of the virtual world (Rice, 2006).

### **3.4 Demographics of massively multiplayer online games**

In terms of demographics, empirical research into online gaming has reported that MMOG gamers are mostly male (70-80%) and that the majority of players are in their mid-20s. Yee (2007) conducted a study on 30 000 gamers and found that the average age of gamers was 26.6 years, whereas Cole and Griffiths (2007), who collected data from 45 countries, reported that slightly more than one-fourth of the gamers (28.2%) were older than 25, whereas only one-fifth were younger than 18 (20.6%). Two other studies reported a slightly higher mean average age of 27.9 years and 31.2 years (Griffiths, Davies & Chappell, 2004; Williams, Yee & Caplan, 2008). A report from the Entertainment Software Association (ESA, 2013) concluded that the average video game player is 31 years old, with 52% being male and 48% female. Overall, several of the academic studies suggested that the stereotype of an adolescent male gamer as the typical online gamer is no longer the case since most regular gamers appear to be young male adults (Cole & Griffiths, 2007; ESA, 2013; Griffiths et al., 2004; Williams et al., 2008; Yee, 2007).

Research has indicated that female gamers are generally older compared to male gamers (Yee, 2007). Pontes and Griffiths (2014) identify that the number of female gamers aged 50 years and older increased by 32% from 2012 to 2013. Previous studies have indicated that the majority of MMOG gamers are single. However, the rate for married gamers is relatively high (36%). Further studies report that the education level of gamers is higher than that of the general population (Griffiths et al., 2003; Williams et al., 2008). There has been an inconsequential amount of research conducted regarding online gaming in the South African context and therefore more intensive research needs to be conducted to identify conclusive South African demographics.

### **3.5 Problematic Internet use with massively multiplayer online games**

This section focuses on the clinical picture of PIU with MMOGs by exploring terminology, historical development, incidence/prevalence, motivation for PIU with MMOGs, exploring personality, clinical representation, clinical characteristics and diagnostic indicators, possible differential diagnoses, course and outcome as well as looking at treatment and prognosis.

**3.5.1 Exploring problematic Internet use with massively multiplayer online games.** The last two decades have seen an increasing interest in the potential negative effects of excessive Internet use on society's mental and social health (Young, 2009). Online gaming is a variant of PIU, which, at least in adolescents, seems to be the most addictive form of compulsive Internet use (Block, 2008; van Rooij, Schoenmakers, van de Eijnden & Mheen, 2010). These MMOGs are the most recent genre of Internet computer games that has been identified as a social problem in many countries (Peters & Malesky, 2008).



There is much debate about the exact terminology to define PIU with MMPOG's (Zhong & Yao, 2013). A broad range of terminologies such as game addiction, game dependency, excessive game play, compulsive game play, pathological gameplay and even problematic game play have been used to describe the phenomenon of online gaming addiction (Lemmens, Valkenburg & Peter, 2009). The most common term used is gaming addiction because it emphasises that the object of addiction is the gaming behaviour. Gaming addiction is also used because it entails a less ambiguous term compared to other terminology (O' Brian, 2010). The Diagnostic and Statistical Manual of Mental Disorders (5th ed., DSM-5; American Psychiatric Association [APA], 2013) acknowledges gaming addiction in the section on further considerations for study and labelled the proposed diagnosis Internet gaming disorder (IGD). Wu, Scott, and Yang (2013, p. 205) identified an effective working definition of online gaming addiction as "A recurring behaviour that is unhealthy or self-destructive which individuals have difficulty ending". Another useful definition of online gaming addiction is "the persistent inability to control excessive gaming habits despite associated social or emotional problems" (Brunborg et al., 2013, p 1).

The present study will utilise the term PIU to refer to pathological massively multiplayer online gaming behaviour. The reason for the use of the term PIU relates to the fact that the phenomenon has yet to be diagnosed as a disorder of addiction.

**3.5.2 Historical developments.** The first report of PIU with online games emerged in psychological and psychiatric literature ten years after the first commercial video game was released in the 1970s (Pontes & Griffiths, 2014). A more detailed description of PIU with online games was brought forth later by Soper and Miller (1983) where it was observed that video game addiction was akin to other behavioural addictions and consisted of compulsive behaviour involvement, a lack of interest in other

activities, association and friendship circles essentially with other disordered gamers, and physical and mental symptoms when players attempted to cease the behaviour. In the mid-to late 1980s, reports by clinicians noted that many children counselled were seemingly addicted to video games as several had missed school to play video games (Klein, 1984; Keepes, 1990).

Arguably, the first empirical study published in a refereed journal specifically addressing problematic video gaming was conducted by Egli and Meyers (1984). They investigated whether playing games had any perceived positive or negative impact on players' lives in a sample of 151 participants with ages ranging from 10 to 20 years. The data collected allowed the authors to develop a psychometric tool comprising of a total of 28 questions rated on a 7-point Likert scale to assess gaming compulsion based on the participants' perceptions of compulsive behaviour. As a result, the authors demonstrated that 13% of the total sample ( $n=20$ ) displayed compulsive video game playing behaviour. Despite using an innovative and modern methodology to assess gaming compulsion, the relatively small sample size alongside the exclusive reliance on the participants' perception about the supposedly compulsive gaming behaviour, limited the generalisability of the author's findings.

The main issue with the studies conducted in the 1990s, according to Griffiths, Kuss, and King (2012), was that they assessed PIU with MMOGs using adapted versions of the DSM-IV (APA, 1994) criteria for pathological gambling. A similar critique was also made by Shaffer, Hall, and Vander Blitz (2000) where the authors suggested that it is theoretically and clinically premature to assume that the psychodynamics of gambling and computer-related disorders are identical. Most important, although similar, pathological gambling and excessive gaming do not present with the same clinical features, and some have argued that using the diagnostic criteria for pathological

gambling in order to diagnose PIU with MMOGs only taps into obsessive use and preoccupation rather than the actual pathology (Charlton & Danforth, 2007).

Given that most of the studies published before 2000 specifically investigated arcade or console video games rather than online video games, there was a substantial growth in the number of studies on problematic gaming almost solely due to the introduction of online video games where games could be played as part of a community (for example, massively multiplayer online role-playing games (MMORPGs) such as World of Warcraft and Everquest) (Pontes & Griffiths, 2014).

The recent reviews on the topic of PIU with online games identified that approximately 60 studies were published on gaming addiction between 2000 and 2010 (Kuss & Griffiths, 2012). Most of these studies focused on MMORPG addiction, and the samples used in most of these studies were not limited to adolescent males. Furthermore, many of these studies collected their data online. These reviews generally concluded that PIU with MMOGs is a clinical entity that can be categorised as a disorder that can potentially cause problems in a minority of gamers' lives (Kuss & Griffiths, 2012; Griffiths et al., 2012).

As mentioned earlier, currently a proposed diagnosis of IGD has been included in the DSM-5 to classify PIU with online games (APA, 2013). This suggests that further research is required in the field of PIU with MMOGs in order for a formal classification to be made.

**3.5.3 Incidence/prevalence.** It is difficult to identify an accurate prevalence of PIU with MMOGs because of the varying criteria, questionnaires utilised, and threshold employed. In terms of age, a higher prevalence of PIU with MMOGs has been observed among the younger generation (Ko, Yen, Chen, Chen & Yen, 2005). However according to the American Entertainment and Software Association (2005), the average gamer is 35

years old and has been playing for 12 years. The prevalence of age for the proposed criteria of IGD, according to the DSM-5, is identified as a male adolescent between 12 and 20 years of age (APA, 2013). The point prevalence in adolescences (age 15-19 years) in one Asian study was 8.4% for males and 4.5% for females (APA, 2013).

While access to the Internet has grown by approximately 112% in South Africa in the last six years, the Internet penetration rate is still rather modest compared to industrially developed countries at approximately 10% of the total population (Thatcher, Wrentschko & Fisher, 2008). Thus, there has been a deficit of studies regarding PIU with MMOGs within a South African context.

The DSM-5 suggests that Asia appears to be the continent with the highest prevalence of the proposed diagnosis IGD (APA, 2013). However, very few studies have used nationally representative samples. Pontes and Griffiths (2014) suggest that in order to study any disorder with a low prevalence rate such as PIU with MMOGs, large sample pools are necessary for providing reliable estimates of prevalence rates amongst the population. This highlights the need to add to the body of knowledge of PIU with online games in order for data to be more representative internationally.

**3.5.4 Clinical characteristics.** MMOGs are one of the fastest growing forms of Internet addiction (Grüsser, Thalemann, & Griffiths, 2007). Given the increased popularity and prevalence of Internet gaming, researchers in gaming studies, addiction treatment specialists, policy makers and the general public, have expressed concern that some players may be playing games pathologically resulting in detrimental effects that interfere with daily life functioning (Pontes & Griffiths, 2014).

Compared to other non-chemical addictions, such as pathological gambling, research on PIU with MMOGs lags behind in terms of theoretical models of development, progression, and treatment (Griffiths et al., 2012). According to Zhong and

Yao (2013), researchers have made prodigious efforts to explore PIU with MMOGs in terms of diagnosis, the psychological antecedents, the physical or psychosocial problems caused by gaming addiction and the treatment of gaming addiction. There is great difficulty in distinguishing between high engagement with games and PIU with MMOGs (Brunborg et al., 2013).

A study conducted by Brunborg et al. (2013) showed that participants who were addicted to MMOGs and those participants in the less severe problem gamer group both had a greater risk of feeling sad, irritable or in a bad mood, feeling nervous, being tired and exhausted, and feeling afraid. Furthermore, Brunborg et al. (2013) identified that individuals who were often playing MMOGs, but not addicted, did not have an increased risk of any of the psychological complaints. This is in accordance with previous findings suggesting that high engagement with MMOGs seems to be unrelated to health (Charlton & Danforth, 2010). These results indicate contested research findings regarding the difference between individuals experiencing PIU with MMOGs and high engagement gaming.

As discussed in detail in Chapter 2, behavioural addictions, such as symptoms of PIU with MMOGs, according to Griffiths (1991), share similarities with substance dependence and pathological gambling, including preoccupation, escapism, feelings of compulsion and withdrawal symptoms. The two diagnostic criteria for substance dependence and pathological gambling specifically related to behavioural dyscontrol with online gaming are preoccupation (or salience) and relapse.

The diagnostic criteria of preoccupation can be identified when the individual is often preoccupied with thoughts about MMOGs, with playing itself and when one has strong feelings of wanting to play (craving). These symptoms may be signs of the massively multiplayer online gaming becoming out of control. Problematic gamers may

feel a strong discomfort both emotionally and physically (that is, withdrawal symptoms) when doing other non-gaming activities, that is resolved by returning to game playing. Ko et al. (2007) conducted one of the first brain imaging studies with 10 participants experiencing PIU with MMOGs who were presented with gaming pictures and paired mosaic pictures while undergoing functional magnetic resonance imaging (fMRI) scanning. The study found that certain areas of the brain were activated with self-reported gaming urges and recalling of gaming experiences provoked by the pictures. Furthermore, the results demonstrated that the neural substrates of cue-induced gaming urges/cravings in PIU with MMOGs was similar to the cue-induced craving for substance-dependence, thus suggesting that gaming urges/cravings and craving in substance dependence might share the same neurobiological mechanisms (Ko et al., 2007).

Additionally, MMOGs might be used as a form of coping or escapism from difficulties and discomfort in everyday life (Caplan, 2003). When playing MMOGs becomes a standard way to resolve or avoid any type of dysphoric state, it tends to become problematic (Caplan, 2003; Davis, 2001). Individuals who attempt to cut down on playing MMOGs may relapse due to having little experience of routinely dealing with everyday stress and real-life social interactions (Turner, 2008).

Another potential criterion for PIU with MMOGs is mood modification. Games can be utilized to modify one's mood from a negative to a neutral or positive state (by coping or escapism), but also to modify a neutral or positive state into an even more positive state (euphoria/high) (Meerkerk, Van den Eijnden, Franken, & Garretsen, 2010). These rewarding aspects of MMOGs are similar to those in substance use and substance dependency. In addition, within MMOGs all sorts of incentives can be achieved, such as credits, character growth, appreciation, and respect from other players. Games are

designed to reward frequently and at irregular intervals (Griffiths & Davies, 2005). This is comparable to short odds gambling with a high event frequency, which is believed to be a primary contributing factor to gambling addiction (Meerkerk et al., 2010). After a variable period of time, however, the intensity of the fun and excitement may decrease, and tolerance for the rewarding capacity of the MMOG occurs. This is, in turn, comparable to tolerance for substances after prolonged use. For some players it leads to increased amounts of effort and time being spent on playing MMOGs (Griffiths & Davies, 2005).

In order to measure PIU with MMOGs, many studies have adapted the diagnostic criteria for pathological gambling found in the DSM-5 (APA, 2013; Griffiths, 1991). Some studies have utilised Griffiths' (1991) seven core facets or criteria for addiction. The World Health Organisation outlined the following primary symptoms related to online gaming addiction as: craving, tolerance, withdrawal symptoms, loss of control, neglect of other activities and other negative consequences (Griffiths & Meredith, 2009).

Researchers in the gaming studies field have noted that empirical evidence is needed to identify the defining features of PIU with MMOGs, obtain cross-cultural data on reliability and validity of specific diagnosis and to determine prevalence rates in representative epidemiological samples in countries around the world (Pontes & Griffiths, 2014).

**3.5.5 Clinical representation.** More recently the DSM-5 (APA, 2013) has proposed a diagnostic category to include both substance use disorders and non-substance addictions. Additionally, addiction-like behavioural disorders such as IGD, have been considered as potential additions to this category as research data accumulates (APA, 2013). According to Hellman et al. (2013), behavioural addiction may differ from drug addiction in magnitude but not in kind.

## PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES

The present study will be adopting the proposed diagnostic criteria for IGD found in the DSM-5 as a guide for identifying addictive behaviour in terms of PIU with MMOGs. The DSM-5 proposed criteria for diagnosing IGD is presented as the persistent and recurrent use of the Internet to engage in games, often with other players, with behaviour as indicated by five (or more) of the following in a 12-month period:

- Is preoccupied with Internet games (for example, the individual thinks about previous gaming activity or anticipates playing the next game; Internet gaming becomes the dominant activity in daily life).
- Withdrawal symptoms when Internet gaming is taken away; these symptoms are typically described as irritability, anxiety, sadness, but do not include the physical signs of pharmacological withdrawal.
- Tolerance, the need to spend increasing amounts of time engaged in Internet games.
- Has repeated unsuccessful efforts to control participation in Internet games.
- Loss of interest in hobbies and entertainment as a result of Internet games.
- Use of Internet games as a way of escaping from problems or of relieving a dysphoric mood (for example, feelings of helplessness, guilt, anxiety, depression).
- Lies to family members, therapist or others to conceal the extent of involvement with Internet games.
- Has jeopardised or lost a significant relationship, job, educational or career opportunity because of Internet games.

It must be noted that another factor contributing to the lack of clarity in the classification of pathological Internet gaming is the fact that the American Psychiatric Association (2013) classification criteria has only been proposed in the DSM-5 (APA,



2013), and is therefore not currently the only standard utilised in the field where others are utilised.

**3.5.6 Differential diagnosis.** Excessive use of the Internet not involving playing online games (for example, excessive use of social media), according to the American Psychiatric Association (2013), is not considered analogous to IGD, and further research is required to identify a differential diagnosis. Furthermore, further research is required into identifying differential diagnoses for specific forms of PIU with online gaming such as MMOGs. Excessive gaming online may qualify for a separate diagnosis of IGD (APA, 2013). Finally, there is a need for further research into high engagement of online gaming versus PIU.

**3.5.7 Course.** The consumption of traditional media allows individuals to have little direct influence on the media content, while online computer gaming allows for the individual to experience an interactive process (Yee, 2007). The motivation of the player is important in identifying the reason for playing online games (Zhong & Yao, 2013). Motivation can be defined as the inner force that drives individuals to take action and pursue goals for future achievement (Kunda, 1990). The online gamers can be motivated to play the same game for different reasons. For example, the popular MMOGs such as World of Warcraft, motivated many gamers by the fierce competition and fighting actions, while others were motivated rather by building and maintaining virtual social relationships with other players (Yee, 2007).

A study by Griffiths (2010) has shown that two gamers may play for an identical number of hours each day, but their psychological motivation and the meaning that gaming has within their lives can be very different. It is important to explore the gamers' motivation for playing a certain online game because it can determine the extent to which the players are absorbed in the gaming world (Zhong and Yao, 2013).

This section will explore the course of players developing PIU with MMOGs. The psychosocial motivators of enjoyment and leisure, sensation-seeking, online identity, flow of experience and escapism, anonymity and social support will be discussed.

**3.5.7.1 *Enjoyment and leisure.*** Some gamers play online games for the enjoyment and relaxation that the experience provides (Zhong & Yao, 2013). There is a considerable amount of evidence identifying that enjoyment is a strong determinant of an individual's intention to play MMOGs (Wu et al., 2010). Chen, Chen and Ross (2010) suggest that many people treat MMOGs as simply a way to pass time and entertain themselves. The gamer can be driven by a desire for the feeling of enjoyment while being involved in the fantasy of the MMOG. Wu and Lui (2007) also reported that the enjoyment of online gaming is positively related to the intention to play online games.

**3.5.7.2 *Sensation-seeking.*** Many online gamers find their motivation to continue playing online games comes from the sense of excitement or euphoria that they feel most often linked to various achievements and rewards in games, its social connections and the exploration of virtual worlds (Yee, 2007). The appeal of MMOGs is that they incorporate challenges that compel players to continuously refine their skills, therefore the players strive to advance to higher game stages and tend to become immersed in the action (Wu, Scott & Yang, 2013). Higher play levels include new challenges and novelty, and game advancement creates an intense motivation for online gamers (Wu et al., 2013).

Zuckerman (1979) defines sensation-seeking along the following four dimensions; thrill and adventure-seeking, experience-seeking, disinhibition, and susceptibility to boredom. While the adventure-seeking dimension can be defined as a desire to engage in activities involving speed or danger, the experience-seeking dimension involves the pursuit of new experiences. The disinhibition dimension features behaviours that ignore

social laws or constraints. Lastly, the susceptibility to boredom relates to avoiding boredom produced by unchanging circumstances (Zuckerman, 1979).

The appeal of MMOGs are that they are able to satisfy these four dimensions of sensation-seeking due to the diverse nature of the games, as well as the different types of online games available (Smyth, 2007; Wu et al., 2013). Players of MMOGs can assume any role they desire in virtual communities and collaborate with each other to accomplish missions, while the nature of the mission depends on the type of game played (Smyth, 2007). For example, first-person shooter online games appeal to both the adventure-seeking and the disinhibition dimensions of sensation-seeking (Wu et al., 2013). The role playing online games incorporate a virtual environment in which a story line evolves over time and various positive and negative events occur periodically in the context of contingencies that are often appealing to the players (Yee, 2007). These games are thus appealing to the adventure-seeking, experience-seeking, and the susceptibility to boredom dimensions of sensation-seeking (Yee, 2007; Zuckerman, 1979).

Games with such features have addictive potential because they include the conditioning of the gamer to remain motivated to achieve some form of positive rewards that allow the player the feeling of success in-game (Zhong & Yao, 2013).

**3.5.7.3 Online identity.** For many individual's interest in MMOGs emerges from the creating of virtual worlds (Young, 2009). Gamers design and create their own characters, commonly known as avatars (Ducheneaut & Moore, 2004). An important aspect of MMOGs is that the online gamer typically controls the action of an in-game avatar to achieve various objectives. These avatars can be seen as being a digital representation of the game player's virtual space (Zhong & Yao, 2013). This results in the game allowing the human player to determine how an avatar would look and function (Duheneaut & Moore, 2004).

The vast genre of online games offers a wide range of opportunities for human players to be connected to their avatar (Graham, 2010). Avatars have the capacity to facilitate computer-mediated interactions and the transition of nonverbal cues, such as gestures, postures, movements, and facial expressions (Zhong & Yao, 2013). Thus the avatars can be closely related to the gamer's sense of self (Edgar, 2016). These avatars need not share the same physical, social or even psychological qualities as those of the player. They can also accurately convey players' affects, emotions, personality and various aspects of self (Edgar, 2016).

In MMOGs the relationship between gamers and their avatars are highly diverse (Edgar, 2016). While some gamers may see their avatars as alternative selves, others will see them as mere playing pieces necessary to participate in an online game (Edgar, 2016). The online gamer's perception of the human avatar interaction reflects how much they feel attached to and identify with the avatar (Graham, 2010). The nature of the online game is also significant in determining the relationship between the player and the avatar. Certain MMOGs do not allow flexibility in the choice of an avatar, whilst others allow gamers extensive choices for the role-play (Bainbridge, 2010).

The relationship between the gamer and their avatar may be explained by the theory of the looking glass self, developed by Charles Cooley (1988). The concept of the 'looking glass self' offers insight into how an individual forms their identity based on how others see them. Cooley (1988) points out that the view that we have of ourselves comes from the contemplation of personal qualities and impressions of how others perceive us. Online games have been developed to allow the individual to interact with their avatar in such a way that they can create their ideal self (Yee, 2007). Thus, the individual can create a socially acceptable self on line. For example, for human

characters, players can select skin colour, hair colour, height, weight, and gender (Young, 2009).

Cooley (1988) further highlights that how we see ourselves does not come from who we really are, but rather how we believe others see us. For some individuals reality is based on low self-esteem and poor self-image due to the evaluations that others in our environment do not accept us. Fenigstein, Scheier and Buss (1975) further explain the concept of the public facet of self-awareness which refers to the awareness experienced when one perceives the self as a social object and it increases with cues of accountability (for example, photographs). The idea of creating an online self is appealing for many individuals because it enables the individual to build an ideal and socially acceptable self (Vasalou, Joinson & Pitt, 2007).

Melanie Klein (1946) describes the creation of this ideal self as projective identification. Projective identification is a process whereby the individual wishes to rid him or herself of the unwanted parts of the self. The individual may in unconscious fantasy force parts of the self into another person (Melanie Klein, 1946). Vasslou, Joinson and Pitt (2007) developed 85 online profiles and concluded that more than half of the participants customised their avatars to represent their physical and personal preferences. With online games for example, the individuals rid themselves of unwanted parts of the self through the creation of an avatar that does not have these unwanted flaws.

Yee (2007) further classified avatars into two categories, a projection or idealisation of one's identity and a try for new identities. Many players view the avatar as an idealised version of their own personality and that users are more satisfied with their avatar when there are no major discrepancies between online and real personality traits (Moon et al., 2013).

In the statement “Finally, a place to love your body, love your friends, and love your life”, Turkle, (2011, p. 9) represented the idea that a lot of individuals, as represented by their avatars, create their ideal persona online. Zhong and Yao (2013) uses the term avatar-self-identification to describe the extent to which an individual player thinks his or her avatar is an ideal projection of self or an extension of the self. Smahel, Blinka and Ledabyl (cited in Zhong and Mao, 2013, p. 560) found that gamers who viewed their avatars as being important show greater avatar-self-identification and devote not only much more time into the growth of the avatar, but also a greater deal of emotion. Zhao, Wang and Zhu (2010) suggest that the sustainability of playing online games would depend largely on the depth of avatar-self-identification.

The online or virtual self can also be considered as a distinct person from that of the player (Edgar, 2016). The player can spend hours living as this other person and may begin to identify with a character that feels more real and less fictional the longer they play (Young, 2009). The problem arises when these players rely upon these new online personas for the distinction between what is real and what is a fantasy become blurred (Young, 2009).

**3.5.7.4 Flow of experience.** The MMOGs are, by nature, captivating and time-consuming, and many gamers invest large portions of their lives in the games (Yee, 2007). The flow of experience is another psychological motivator of excessive online gaming, as the player focuses all their consciousness on a narrow field (game) and all other irrelevant information is filtered out. Thus there is a great possibility that the online player will lose sensibility and a sense of time (Wu et al., 2013).

The MMOG players tend to spend a substantial amount of time playing the games (Griffiths et al., 2004). Wang, Chen, Lin and Wang (2008) found that there was a significant negative relationship between online game-playing frequency and life

satisfaction in adolescence. According to Griffiths et al. (2004) in a recent study of players who came from 21 different countries, some reported playing over 70 hours per week. Over 60 % of players spent over 10 hours at a time playing MMOGs. The MMOG players, compared with other gamers, reported 21-40 hours gaming time a week whereas players of other games most commonly gamed for 1-2 or 3-6 hours a week (Ng & Wiener-Hastings, 2005). According to Griffiths (2010), the time spent on gaming as a measurement of addictiveness can be problematic, as there are many cases in which there are few or no negative consequences in the player's life in spite of gaming several hours a day.

**3.5.7.5 Escaping reality.** The aspect of diversion from reality can be a primary motive for playing online games (Yee, 2007). These individuals may engage in behaviour such as attacking other players as an approach to relieve their negative mood or chatting with other players about their personal life experiences (Yee, 2007). Furthermore, these games allow the gamers to escape their everyday real-world problems by immersing themselves in a fantasy world (Attwood, 2006).

The MMOGs offer an escape to a more enjoyable, joyful, living environment (Hussain & Griffiths, 2009). Klimmt, Hefner and Vorderer (2007, p.7) describe the aspect of escape as follows "it is plausible that the desire to temporarily forget one's real-life problems would be fulfilled more effectively if a viewer would not only enjoy the observation of media characters, but if she/he would experience to actually become a different person for the moment." Students are a particularly vulnerable group for getting absorbed in the habit of online gaming as an escape, as they often live under constant pressure regarding social and career decisions (Hussain & Griffiths, 2009).

Freud (1936) identifies one of the defense mechanisms related to escaping reality through the use of MMOGs as sublimation. Sublimation involves taking a fundamentally

antisocial or unacceptable desire and channelling the energy into socially valued activities (Baumeister, Dale, & Sommer, 1998). MMOGs provide a platform for games to engage in behaviour that would be unacceptable in reality (for example, shooting and attacking other players). Sublimation is a defense mechanism that is typically associated with maturity because it involves the conscious transformation of socially unacceptable impulse or idealizations into socially acceptable actions or behaviours, possibly resulting in long-term conversion of the initial impulse (Freud, 1936). Therefore, sublimation would most often be seen amongst more mature or older gamers.

**3.5.7.6 Anonymity.** “Under the protective cloak of anonymity, users can express the way they truly feel and think” (McKenna and Bargh, 2000, p.62). This quote highlights fact that many individuals are motivated to play online as they are able to engage with others anonymously without the stakes involved in face-to-face interactions (Griffiths, 2000). Joinson (2001) highlights that computer-mediated communication has become a prominent forum of communication due to the features of visual anonymity and limited channel (for example, text only) communication. Online games provide the individual with a safety value in an online cultural climate where dignity and capability are attached to the performance of agency (Sulkunen, 2009). Many MMOGs require individuals to rely on interaction with others in order to succeed in the game. Thus the anonymity of the interaction may be especially appealing for individuals with real-life interpersonal challenges such as low self-esteem, introversion, insecure attachment styles, and depression (Cole & Hooley, 2013).

Both experimental and anecdotal evidence suggests that computer-based communication can be characterised as containing high levels of self-disclosure (Joinson, 2001). Self-disclosure can be seen as the act of revealing personal information to others (Archer & Burleson, 1980). Rheingold (1993) claims that meaningful relationships can



be formed in cyberspace because of, not despite of, its limitations. He further argues that the Internet, by nature, will be a place where people often end up revealing themselves far more intimately than they would be inclined to do without the intermediation of screens and pseudonyms (Rheingold, 1993). The experience of social relationships in MMOGs allows the user to fulfil the need for belonging without the risk of negative face-to-face impressions (Baumeister & Leary, 1995).

Joinson (2001) further explains that anonymity allows the online user to construct a predominately positive impression, which leads to idealised impressions of one's communication partner without the judgement of face-to-face first impressions. According to Chak and Leung (2004), individuals who report negative outcomes associated with their PIU are especially drawn to its communicative functions.

Further studies have demonstrated the existence of a close relationship between shyness and loneliness and frequent Internet use (Ashe & McCutcheon, 2001; Woodhouse, Dykas, & Cassidy, 2012). Ashe and McCutcheon (2001) found that shy individuals tended to avoid social interactions and are less involved in social activities, hold more negative evaluations of themselves and have a smaller network of friends, thus contributing to them having a stronger sense of loneliness. Research has shown that online gaming provides an environment that facilitates relationships for shy individuals because of the perceived greater control they have over how they interact and present themselves online (Young, 2009). Online games provide these individuals with the opportunity to create their own altered identities while in the faceless cyberspace and to pretend to be someone else, yet satisfy their emotional and psychological needs through interactions that are less threatening and less demanding, and possibly more intimate, than real life relationships (Turkle, 2011).

In an exploratory study looking at the impact of personality variables such as shyness on frequent use of the Internet, Chak and Leung (2004) found that high levels of shyness and loneliness were associated with an increase in various forms of PIU (for example, online games). The participants expressed feeling more confident when interacting online and relied primarily on this aspect of technology to communicate resulting in online dependency and significant impairment in individual functioning (Chak & Leung, 2004).

**3.5.7.7 Social support.** Online gaming also provides the need for supportive group play and social interaction (Zhong & Yao, 2013). The social interactions in online games can vary from being competitive, as when characters fight, or collaborative, as when players exchange goods or information (Ducheneaut & Moore, 2004). For example, with MMORPGs, players often create alliances with each other because challenges are too difficult for solitary pursuits (Yee, 2007).

A common social support feature of MMOGs is the presence of a guild, which is a community of players linked through the game (Moon et al., 2013). Belonging to a superior community can provide the player with a sense of self-superiority because the player feels that he/she is one of the best in the game (Looy et al., 2010). According to Yee (2007), 79 percent of gamers form guilds to achieve commonly beneficial goals. Guild members regularly play together in the game world as many MMOGs provide guild game players with chat and instant messaging services to facilitate communication among members (Moon et al., 2013).

The fact that online gaming provides the capacity for allowing supportive group play and social interaction among gamers makes online gaming more addictive than offline gaming (Griffiths et al., 2004). The MMOGs allow for interaction that can occur between formally unrelated players from many parts of the world (Yee, 2006). This type

of interaction allows the individual the opportunity to identify with a group, which strengthens their feeling of identity and belonging (Looy et al., 2010). For example, the MMORPG World of Warcraft most commonly includes chatting, buffing (casting a friendly spell), kill assisting (helping someone else to kill a monster), and escorting a weaker character through a dangerous area, and most of these interactions take place within a formalised group context (Looy et al., 2010).

**3.5.7.8 Online relationships.** The MMOGs have been called social outlets as the needs and desires that they fulfil are mostly of a social character. According to VanCott (2008), compulsive excessive online gaming is a socially learnt behaviour. The idea that the social aspect of online gaming contributes to the addictive nature is supported by van Rooij et al. (2010). MMOGs seem to absorb their users to a larger extent and show the strongest association with compulsive Internet use because they allow for the creation of social identities and raise the users' self-esteem (Griffiths, 2002). Caplan (2007) suggests that preference for online social interaction predicts the extent to which a user engages in PIU.

Many online gamers help and communicate with other players with the expectation of creating long-lasting meaningful relationships with them (Yee, 2007). This communication, which is an essential component of MMOGs, improves social interaction, game performance, and enjoyment, through the formation of social networks (Moon et al., 2013). According to Zhong and Yao (2013), making friends is a highly important aspect of online gaming. The Chinese Annual Report of Online Games reports that making friends is the most important reason for individuals to play online games and the departure of friends was an important reason for a player to quit the game (Zhong & Yao, 2013).

**3.5.8 Personality and problematic Internet use with massive multiplayer online games.** There has been relatively little research that has examined the relationship between personality and PIU with MMOGs. Personality traits may play a role, as many individuals seem to have personalities that may predispose them to addictive behaviour (Mehroof & Griffiths, 2010).

The term addictive personality has been variously defined over the years leading to confusion and misunderstanding (Amodeo, 2015). Amodeo (2015) states that there is no sound generalisable research evidence for an addictive personality. Defining addictive personality traits becomes difficult because of the variety of symptoms associated with addiction (Takao, Takahashi & Kitamura, 2009). Lang (1983) highlighted that there is no single set of psychological characteristics that embrace all addictions. He does, however, identify several significant personality factors that can contribute to addiction. These include impulsive behaviour, difficulty in delaying gratification, an antisocial personality and a disposition towards sensation-seeking. Additional predisposing personality factors include a high value placed on non-conformity combined with a weak commitment to the goals for achievement valued by society, a sense of social alienation, a general tolerance for deviation and a sense of heightened stress (Lang, 1983).

Mehroof and Griffiths (2010) conducted a study examining the relationship between PIU with MMOGs and personality factors among more than 200 university students in the United Kingdom. The results of the study indicated that there was a significant relationship between PIU with MMOGs and the traits of aggression, sensation seeking, anxiety, and neurosis. The trait of sensation-seeking was a positive correlation with PIU and MMOGs because it provides a coping mechanism for individuals to overcome their boredom, and/or online games provide psychological or physiological stimulation and rewards for sensation seekers. The positive association between

aggression and PIU with MMOGs suggested that aggressive behaviour may facilitate the development of PIU with MMOGs. Like sensation seeking, if the gamer's violence is rewarded, it suggests that the behaviour will be repeated, and, in some individuals will lead to the excessive use of online games. A study by Ko et al. (2005) showed that higher levels of aggression are related to the behaviour becoming goal directed as individuals gain rewards such as high scores.

Mehroof and Griffiths' (2010) findings further indicated a significant correlation between anxiety and PIU with MMOGs. This is consistent with Davis (2001) highlighting that the social motivation for playing online games may be particularly true for those with heightened anxiety in social situations. Several studies found a significant correlation between neuroticism and PIU with MMOGs (Brunborg et al., 2013; Cole & Hooley, 2013; Mehroof & Griffiths, 2010; Zhong & Yao, 2013). These studies all found that online gaming appeals to individuals who have high neuroticism because they have a tendency to prefer coping strategies involving distancing themselves from problems, the avoidance of problems, and engagement in wishful thinking (Brunborg et al., 2013; Cole & Hooley, 2013; Mehroof & Griffiths, 2010; Zhong & Yao, 2013).

Within the field of psychology, a move towards positive psychology identifies the presence of positive psychological characteristics that may act in a protective manner by promoting adaptive functioning (Seligman, Rashid & Parks, 2006). The study of positive dimensions could be particularly promising in the field of PIU because one's sense of self-determination or the ability to regulate behaviour from within might decrease the likelihood of developing aspects of PIU (Casale, Tella & Fioravanti, 2013).

Another protective factor identified by Koo and Kwon (2014) is the awareness of one's unique identity functions, also known as self-identity. Moreover, individuals who have a good sense of self-identity have a strong protective factor against developing PIU

not only with MMOGs, but also with overall Internet addiction. Furthermore, both good emotional regulation and self-control are seen as strong protective factors against PIU (Koo & Kwon, 2014). This suggests that increased self-control enables individuals to reasonably control their use of MMOGs, thereby preventing its addictive potential. Individuals who struggle with PIU are weaker at controlling their behaviours, impulses or emotions than the average internet user (Koo & Kwon, 2014).

**3.5.9 Outcomes.** There are serious physical health considerations that are related to online gaming. Repetitive keyboard and mouse movements and long periods seated at the computer desk can result in physical discomfort such as tension headaches and muscular aches in the neck and shoulders (Griffiths, 2002). In extreme cases of PIU with MMOGs, players have experienced epileptic seizures, auditory hallucinations, and even voluntary enuresis and encopresis (Graf, Chatrian, Glass & Knauss, 1994). There have been media reports of gamers dying, in extremely rare cases, following prolonged bouts of online gaming, due to either stress, exhaustion, or other complications (Griffiths, 2002). Young (2009) points out that in 2005, BBC news reported on a 28-year-old South Korean man who died after playing the online game StarCraft at an Internet café for 50 hours straight. By all reports, the man had not slept properly and had eaten minimal amounts of food during that time, and was believed to have died from heart failure stemming from exhaustion (Young, 2009).

Online gaming can become an emotionally draining and time-consuming activity. To create more time for playing MMOGs, players neglect sleep, diet, exercise, hobbies, and socializing (Young, 2004). Individuals engaging in PIU with MMOGs have been known to let their own health deteriorate as they do not get the appropriate rest and nutrition needed. Furthermore, individuals may experience feelings of fatigue, migraines and poor personal hygiene (Young, 2009).

Many online gamers become so absorbed in the game that they withdraw from family and friends, lose interest in daily activities, and continue to participate despite negative work and health consequences (Wu et al., 2013; Zhong & Yao, 2013).

Griffiths and colleagues (2004) conducted a study with 540 online gamers to examine various factors of online game players. The results of the study show that a majority of participants indicate that an essential requisite to maintain their status in the game was to sacrifice core aspects of their lives, and that the average amount of time the participants spend playing online games was 24.7 hours a week (Griffiths et al., 2004).

The Entertainment Software Association (2009) reported that nearly 68% of American households play computer video games, with at least one-third of gamers being married. A study conducted by Northrup and Shumway (2014) identified that many spouses experience a change in their marital relationship when their partners spend a significant amount of time playing online games. These spouses identified that their partners sacrifice roles in the household and roles as a parent in order to play games. The spouses also reported that they argue more with their partners and interact less because of PIU. There were also reports of a lack of communication, rare sexual intimacy and financial loss (Northrup & Shumway, 2014).

According to Mitchell and Wells (2007) the emergence of relational issues due to online gaming may also disrupt intimacy or one's ability to be flexible. A survey of over 900 married couples on the topic of online behaviour found that 35% of couples disagreed about online gaming, where one partner rated this activity as acceptable and the other as not acceptable, indicating that this topic can be problematic in a relationship (Helsper & Whitty, 2010). Demographic data suggest, according to Yee (2007), that 36% of gamers are married and 22% have children. Another study on PIU uncovered a

significant number of participants presenting for treatment for Internet-related issues (Mitchell, Becker-Blease and Finkelhor, 2005).

**3.5.10 Treatment and prognosis.** In the last decade, Internet addiction has grown in terms of its acceptance as a clinical disorder that requires treatment (Young, 2007). The fact that computers are relied upon with greater frequency, detecting and diagnosing online gaming addiction may be difficult for clinicians, especially as symptoms of possible problems may be masked by legitimate Internet use (Young, 2009). Although problematic online gamers represent a relatively small proportion of the online gaming community, it is important to identify the individuals who are at risk of addiction because it allows for clinical professionals to focus on prevention and treatment programmes (Van Rooij et al., 2010). Gaming is similar to other addictions such as gambling because there are similar signs and symptoms that indicate the addiction (Young, 2009). According to Brunborg et al. (2013) research has found that problem gamers have high levels of anxiety, sleeping problems, physical strain, depression, and lower life satisfaction.

It is important to be able to recognise symptoms and possible warning signs of PIU with MMOGs. Problematic internet use (PIU) with MMOGs is still relatively new and mental health clinicians may overlook signs of addiction (Young, 2009). Furthermore, symptoms may be masked by realistic and practical uses of the Internet, and treating practitioners or family members may be unfamiliar with online gaming. Brunborg et al. (2013) identifies that preoccupation with gaming is an important warning sign to identify. The gamer will think about the game when offline and often fantasise about playing. Further warning signs include lying or hiding gaming use, loss of interest in other activities, social withdrawal, defensiveness and anger, psychological withdrawal and continued use despite the consequences (Yee, 2007).



According to the DSM-5 (APA, 2013), IGD has significant public health importance, and additional research may eventually lead to evidence that IGD has merit as an independent disorder. Brunborg et al. (2013) state that in certain parts of Europe, hospitals have now developed outpatient treatment facilities for Internet addiction, addiction, rehabilitation centres have admitted cases of Internet addiction, and universities have started support groups to help students with their addiction (Brunborg et al., 2013). There is a clear need for more intensive intervention programmes focusing on specific forms of behavioural addiction. Griffiths (2005) is of the opinion that research and clinical interventions are best served by a biopsychosocial approach that incorporates the most relevant strands of contemporary psychology, biology, and sociology.

According to Koo and Kwon (2014) therapists and educators should focus on early prevention and intervention strategies such as psychoeducation workshops promoting self-identity and achievement amongst young individuals. Providing intervention in dealing with negative coping associated with PIU with MMOGs and promoting positive ways of dealing with stress should be one focus of such interventions (Young, 2009). Finally, assisting individuals with developing a sense of identity and emotion regulation is seen as an imperative intervention strategy for PIU with MMOGs (Koo & Kwon, 2014).

It is important to note that IGD has only recently been proposed as a possible diagnosis in the DSM-5 and, therefore, there is a scarcity of research on treatment, intervention and prognosis for PIU, more specifically PIU with MMOGs (APA, 2013). There has been no identification of treatment programmes researched within a South African context.

### **3.6 Conclusion**

This chapter focused on contextualising PIU with MMOGs by exploring MMOGs and highlighting the manner in which PIU behaviour with MMOGs has the potential to progress into maladaptive IGD.

The literature review highlights those factors that contribute to the development of PIU with MMOGs. The chapter further explored personality traits related to PIU with MMOGs, the clinical picture of pathological gaming along with the clinical characteristics, differential diagnosis, outcomes, as well as treatment and prognosis of PIU with MMOGs. Literature encompassing pathological gaming and gaming behaviour in general create the impression that there has been a scarcity of information found about PIU with MMOGs and there is much to learn and explore about this phenomenon.

Chapter Five will explore the methodological underpinnings of the present study in order to create a deeper understanding of the systematic processes that guided the present research study.

## Chapter 4

### Research Methodology

*“All our knowledge has its origin in our perceptions.”*

*Learnado Da Vinci (n.d)*

#### 4.1 Introduction

Research methods are plans used in the pursuit of knowledge. Research methodology is defined as the procedures utilised by the researcher to describe, explain and predict a study, and specifies which method will be implemented from various existing research methods for a particular study (Gravetter & Forzano, 2006).

This chapter provides a description of the methodology utilised in the present study and discusses the conceptualisation of qualitative research and transcendental phenomenology to illustrate the phenomena of male adults' lived experiences of problematic Internet use (PIU) with massively multi-player online games (MMOGs). To provide insight into this specific approach, the chapter explores four major processes in phenomenological research, namely, (1) epoche, (2) phenomenological reduction, (3) imaginative variation and, (4) synthesis. In addition, the chapter highlights how these processes are incorporated into the present research design.

This chapter further describes the data collection methods and outlines the research procedure followed. The method used to conduct the research, the problem formulation and motivation for the study, the target population and data analysis are discussed.

Ethical considerations form a central aspect of research methodology. The pertinent ethical issues related to the present study and how these considerations were implemented in the research design are reviewed. This chapter concludes with a

description of Braun and Clarke's (2006) thematic analysis as well as Lincoln and Guba's (1985) model of trustworthiness which is incorporated into the phenomenological research design.

### **4.2 Research method**

The present study was conducted utilising a qualitative, exploratory-descriptive research method. It is qualitative in the sense that it focuses on exploring and understanding the meaning of experiences significant to a specific phenomenon namely, the lived experiences of PIU with MMOGs among male adults (Merriam, 2009). The study reflects a subjective and non-critical emphasis, where the aim of the study is to identify and describe the subjective experiences of the participants involved within an exploratory-descriptive research method.

Qualitative research is utilised to ascertain comprehensive descriptions of phenomena that can be used as reflective process achieved through the investigation and analysis of meanings attached to an experience (Merriam, 2009). Qualitative methods gather information through descriptive explanations providing an in-depth understanding of the nature of what people are experiencing and allows participants to communicate their experiences effectively, in their own choice of words, thus displaying sensitivity to the context in which the study takes place (Smith, 2003). Since the main focus of this study is to understand male adults' experiences of PIU with MMOGs, this particular research method is necessary. Furthermore, qualitative research designs do not impose predetermined theoretical frameworks which have the potential to distort rather than illuminate human behaviour (Moustakas, 1994).

The possible advantages and disadvantages must be noted when considering the choice of a research method. This provides a balanced view regarding the necessity for

the particular study. As a characteristic of qualitative research, the idiographic nature of this methodology enables an in-depth analysis of human experiences for the attainment of thorough knowledge on a certain topic (Louw & Edwards, 1998; Ponterotto, 2005). The idiographic approach suggests that everyone is unique in nature and therefore should be studied in an individual way. Qualitative research further allows the researcher a degree of flexibility in conducting the study, which encourages participants to expand their responses and new topics not previously considered by the researcher (Louw & Edwards, 1998; Ponterotto, 2005).

Some disadvantages of qualitative research include participant restrictions or limitations since fewer people are included in the study due to time constraints. Another characteristic of this form of research methodology includes a non-thematic precise measurement, prediction and control of behaviour, investigating a large group allowing for generalisation (Harvard Education, 2010). Given that research into PIU with MMOGs is a relatively new field of research in the South African context, generalisations are not pursued here, and any initial exploration is sufficient.

### **4.3 Research design**

The present study employs a phenomenological research design by providing a description and analysis of the nature of male adults' experiences of PIU with MMOGs. Phenomenological studies seek a description of the phenomenon as seen through the eyes of the individual who has experienced it (De Vos, Strydom, Fouche & Delpont, 2005).

Phenomenological research focuses on understanding the individual's perceptions, perspectives and understanding of a particular situation (De Vos et al., 2005). It does not attempt to reduce the phenomenon into identifiable variables, but rather to accurately capture the phenomenon within the context in which it occurs. Phenomenology presumes

that the phenomenon studied is related to various meanings created within a certain context and belongs to an individual's lived world of experiences (Smith, 2003). The research design in this study is used to gain an understanding of the meaning that the participants attach to their lived experiences of the phenomenon of PIU with MMOGs.

The goals of the research design are achieved through the focus of a phenomenological inquiry, namely human experience. Phenomenology emphasises subjectivity over objectivity as it focuses on description and interpretation more than upon analysis and measurement of a phenomenon (Smith, 2003). Accordingly, the focal point of such research tends to include people's feelings or meanings as well as their attitudes and beliefs (Moustakas, 1994). Furthermore, the description of the participant's experience, as it is made sense of, understood and interpreted in terms of his conscious awareness is provided. The participant is considered a co-researcher as they explain and make meaning of their subjective experience of PIU with MMOGs. In doing so, a holistic meaning of the experience in context, as articulated by the participant, is obtained (De Castro, 2003).

The advantages of a phenomenological study include its ability to provide authentic accounts of complex phenomena through a humanistic approach which emphasises respect for the research participants (Denscombe, 2003). However, phenomenological approaches are often criticised for lacking scientific rigour and not providing adequate detailed analysis of the phenomena (De Castro, 2003).

#### **4.4 Transcendental science**

A transcendental approach was used to actualise the researcher's goal of observing, understanding and reflecting upon the phenomenon of male adults' lived experiences of PIU with MMOGs as perceived by the participants. Transcendental phenomenology is

described as a science of possibilities which, through the application of systematic efforts, creates opportunities for the empirical sciences to explore actualities of a specific phenomenon (Husserl, 1970).

Cognisance of transcendental science enriches the researcher's capacity to hear without judging and to maintain a stance of openness to phenomena, thus attempting to eliminate everything that represents prejudgements or presumptions (Moran, 2000). Central to this approach is the manner in which the researcher systematically engages without judgement, thus allowing particular perceptions, feelings, and thoughts to be evoked with reference to the experience (Husserl, 1970). Transcendental phenomenology also emphasises the role of subjectivity and the discovery of the meaning within an experience. Seeking understanding of the meaning of an experience without imposing empirical statements or presupposed ideas allows the researcher to explore the essence of the experience by highlighting the relationship between the individual's conscious awareness of what exists and what exists in reality (Moran, 2000).

Transcendental phenomenology incorporates the concept of intentionality and intuition. Intentionality refers to the orientation of the mind to an object in that such an object exists in one's mind through the intentional act of perceiving it and thus can be understood as the conscious experience of something (Moran, 2000). Furthermore, the intentionality is considered to have directedness in which a need is directed towards the object, thus making the act of consciousness and the object within one's conscious intentionally related (Eagleton, 1996).

The importance of intentionality in social research is that it propels perception by creating conscious awareness of oneself and of the world as inseparable components (Eagleton, 1996). This can be understood in terms of the noema-noesis relationship, whereby noema refers to the phenomenon as it is perceived and the noesis refers to how

the phenomenon is experienced. The integration of the noematic and noesis forms the process through which intentionality creates the meaning of experiences (Drummond & Embree, 1992). Phenomenology thus recognises intuition as an essential factor in describing that which enters an individual's consciousness. An understanding of the intention and intuition facilitate the present researcher's ability to describe and interpret male adults' lived experiences of PIU with MMOGs (Eagleton, 1996).

Transcendental phenomenological research emphasises the present inner world of the individual, which includes experience and perception. Emphasis is placed on subjectivity and discovery of the essences of experience (Moustakas, 1994). It is phenomenological as it utilises only the data available to consciousness – the appearance of objects. It is transcendental in that it adheres to what can be discovered through reflection on subjective acts and their objective associations (Moran, 2000). The phenomenological approach assimilates important processes as guidance to effectively investigate phenomenon.

### **4.5 Major processes in phenomenological research**

Phenomenological research does not rely on sequential methodological steps, but incorporates four major processes that allow the researcher to delve into the phenomenon without distorting the participants' accounts and, in doing so, capture the essence of their lived experience. The four major processes of such research include epoche, phenomenological reduction, imaginative variation and synthesis of meanings and essences (Moustakas, 1994). A description of these processes is provided to clarify the nature and approach of the present study.

**4.5.1 Epoche.** Husserl (1970) called the freedom from suppositions the epoche, a process meaning to stay away from or abstain. It includes setting aside prejudgements,



biases, and preconceived ideas. The basis of epoche is to ensure that the researcher does not invalidate the participants' experiences, inhibit their expression or description of such experiences or disqualify the meaning attached to such an experience by imposing previously acquired knowledge. However, the principle of epoche does not intend for the researcher to deny or doubt the reality of the phenomena, but rather the scientific facts that are already known (Moustakas, 1994). Thus epoche requires a new way of looking at things, a way that requires learning to see what a phenomenon actually is, from what can be distinguished and described. Epoche includes a pure internal place, as in the open self, from which the researcher is challenged to create new ideas, feelings, awareness, and understandings (Moustakas, 1994).

In setting aside predilections, prejudices, predispositions, and allowing things, events, and people to enter anew into consciousness, it is as if to look at and see them for the first time. This is transcendental in the sense that phenomena are revisited, freshly, from a wide-open perspective. The researcher attempts to approach the phenomenon of investigation from a position of conceptual silence, in order to be more open to clearly perceiving emergent dimensions (Moran, 2000).

The challenge in achieving epoche is the sustained concentration and effort that is required of the researcher. Although the epoche is rarely perfectly achieved, the energy, attention and work involved in reflection and self-dialogue, the intention that underlies the process, and the attitude and frame of reference significantly reduces the influence of preconceived thoughts, judgements, and biases (Moustakas, 1994). As a researcher of phenomenological based investigation, it is necessary to suspend personal opinion, hold stereotypical views at bay and rely on the primacy of the data gathered in the present study. Therefore epoche serves to guide and support the researcher's behaviour, thoughts

and feelings in order to facilitate the disclosure of the nature and essence of the phenomena (Moustakas, 1994).

The present researcher made every effort to remain true to the facts as presented by the participants' themselves. As the researcher is an important element of data collection, every attempt was made to take responsibility for creating conditions that were most conducive to open communication.

**4.5.2 Phenomenological reduction.** Phenomenological reduction refers to the task of describing. It is used to ensure that the appropriate textual language is used to accurately describe the experience and new knowledge derived from the participants (Moustakas, 1996). The essential nature of the phenomena is obtained through perceiving, thinking, remembering, imagining and judging (Giorgi, 1985). The qualities of the experience become the focus; the completion of the nature and meaning of the experience becomes the challenge. The process involves a pre-reflective description of things just as they appear. Phenomenological reduction is a way of listening with a conscious and deliberate intention of opening ourselves to phenomena as phenomena in their own right, with their own texture and meanings (Moustakas, 1994).

Phenomenological reduction involves a narrowing of attention to what is essential in the presented topic (Theodorou, 2015). By narrowing the attention, one is able to focus on what is essential. With anticipation, this enables one to discover the rational principles necessary for an understanding of the phenomenon under investigation. Thus, the focus of phenomenological reduction is the quality of the experiences that are used to achieve completion of the nature and meaning of the experience (Theodorou, 2015).

The task requires that the researcher repeatedly views the experience to provide varying intensities of the descriptions. "I look and describe, look again and describe; look again and describe; always with reference to textural qualities" (Moustakas, 1994, p.90).

This is achieved by reviewing the different angles of perception. Each angle of perception adds something to one's knowledge of the horizons of a phenomenon, therefore providing a richer description of the experience (Moustakas, 1994). In terms of the present study, this process incorporates the transcendental approach in which the meanings of the experiences are disclosed.

The process of phenomenological reduction includes the use of attention and comprehension so that lived or subjective experiences of the participants become differentiated. Initially, the researcher uses bracketing, in order to set aside prejudgements by bracketing her experiences in order to mitigate the potentially deleterious effects of preconceptions that may taint the research process. The focus is then put on the topic of research as everything else is bracketed by the researcher (Tufford & Newman, 2010).

An additional dimension of phenomenological reduction is the process of horizontalization. Horizons are limitless. Individuals can never exhaust completely their experience of things no matter how many times they reconsider or view them. The concept of horizons emphasises that each statement is initially of equal value. Once the researcher has identified as many statements as possible, they are reviewed so that repetitive and overlapping statements are deleted. In essence, this leaves only true horizons. These horizons are then grouped into themes which are later organised to provide clear textural descriptions of the phenomena (Moustakas, 1994).

**4.5.3 Imaginative variation.** Imaginative variation follows from phenomenological reduction. The goal of imaginative variation is to uncover possible meanings from the themes by utilising imagination (Creswell, 1998). This imagination involves changing one's frame of reference, viewing themes from different polarities or reversing them so that different perspectives, roles or functions can emerge. The aim of

this process is to facilitate a structural description of the phenomenon, which provides insight into the fundamental or precipitating factors that account for what is being experienced (Moustakas, 1994).

Variation is targeted toward meaning and depends on intuition as a way of integrating structural factors into essence. It thus encourages the researcher to focus on pure possibilities to find potential meaning. This process deviates from traditional quantitative perspectives that encourage the development of facts or the use of measurement, by moving towards the meaning and essence of the phenomena. Moustakas (1994) describes the steps in imaginative variation as follows:

- Systematic varying of the possible structural meanings that underlie the textural meanings.
- Recognising the underlying themes or contexts that account for the emergence of the phenomenon.
- Considering the universal structures that precipitate feelings and thoughts with reference to the phenomenon.
- Searching for exemplifications that vividly illustrate the invariant structural themes and facilitate the development of structural descriptions of the phenomenon.

In the present study, the semi-structured conversation format allowed for the identification of structural themes by which participants could describe the meaning that they attached to PIU with MMOGs.

**4.5.4 Synthesis.** The final step in the phenomenological research process is the intuitive integration of the fundamental textural and structural descriptions into a unified statement of the essence of the experience of the phenomenon as a whole (Moustakas, 1994). The essences of any experience are never totally exhausted. The fundamental

textural-structural synthesis represents the core at a particular time and place from the vantage point of the individual researcher following an imaginative and reflective study of the phenomenon (Moustakas, 1994). Therefore, the process of synthesis is not achieved through the restatement of the participants' experiences but provides a deeper and more meaningful description of how the phenomenon manifests. Thus, this process is used to unravel the conditions or qualities through which the experience exists.

### **4.6 Sampling and participants**

The researcher established that many studies have been conducted on adolescent PIU with online games. However, there has been a lack of research regarding the adult population and PIU with online games. The researcher concluded that further research into PIU of adults with online games would be an important phenomenon to explore to add to the current body of knowledge in the field.

Inclusion criteria for the present study included that participants must be males, 18 years or older (legal age in South Africa), living in the Port Elizabeth, Eastern Cape area, and participants must play MMOGs. In order to establish that participants are indeed active in playing online games, the proposed criteria from the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association [APA], 2013) criteria for Internet gaming disorder (IGD) were used as a guide (Appendix A) (APA, 2013). Therefore, the participants must make persistent use of MMOGs and must have met five or more of the DSM-5 criteria for IGD (Criteria in Appendix A).

Participants of any race could be included in the present study. The language used for the interview process was English. The participants therefore needed to be competent in communicating in this language.

Qualitative sampling targets the population group from whom the findings of the study should apply (Mertens, 2009). The sample is selected from the aspects that contain the most representative characteristics of the problem. The sampling method that was used for the purpose of the present study was non-probability sampling. Non-probability sampling focuses on the relevance of the sample in relation to the research (Neuman, 2003). This sampling technique also uses subjective methods for participants to be included in the sample, based on the factors that they present with. The type of non-probability sampling that was used in the present study was purposive sampling. This sampling depends on the availability and willingness of the participant, as well as the participant being typical of the population researched, that is, those who experience PIU with MMOGs (Terre Blanche, Durrheim & Painter 2006). The advantages of non-probability purposive sampling are that it is less costly and relatively quick to implement and, furthermore, is useful in cases where drawing conclusions and making generalisations from the data is less important to the purpose of the research (Battaglia, 2011).

The first participant included in the study was an acquaintance of the researcher who had identified himself as spending extensive amounts of time playing MMOGs to a problematic degree. Further participants were obtained and selected using snowball sampling, where the sample gradually increased through the contacts and references of the initial participant and the researcher (Terre Blanche et al., 2006). The advantage of using this sampling method is that it is possible to include participants where no formal lists or clusters of suitable participants exist (Terre Blanche et al., 2006). A possible disadvantage of this method is that there is less certainty in knowing that the participants will be representative of the larger population (Terre Blanche et al., 2006).

As there are no set rules for determining sample size with qualitative research, the sample size of a qualitative study is based not on numbers, but rather on identifying significant issues or themes (Mertens, 2009). Due to the in-depth nature of phenomenological research, it is suitable for small scale studies, thus the approximate number of participants necessary for the present study was between five to eight participants, until saturation of information occurred (Descombe, 2003). The researcher identified seven participants appropriate for the present study and the sample size was dependent on the inclusion and exclusion criteria as well as data saturation.

### **4.7 Research procedure**

An application for approval of the present research study was made to the Department of Psychology and once it had been accepted, an application was made to the Faculty of Health Sciences Research Technology and Innovation (FRTI) and Ethics (Human) Committees. Approval for the present study was obtained from the committees prior to conducting the present research study (reference number H15-HEA-PSY-032).

These applications were made to ensure that the present study did not breach any ethical codes or guidelines and that the procedure for sample selection was adequate and approved of. The suitability of participants for the present study was established by asking potential participants to fill in a biographical questionnaire with questions pertaining to the inclusion criteria (see Appendix B). An information letter was provided to the participants at the outset of the interview, informing the participants of the nature of the study, confidentiality issues, and the possible risks and benefits pertaining to the research (see Appendix D). Agreement to participate in the present study was obtained by means of a consent form. The consent form also served to comply with ethical obligations (see Appendix E).

## **PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES**

Seven participants were identified to participate in the present study. All research participants were contacted by the researcher telephonically to initiate the prospect of partaking in the present study. Thereafter, the research participants were contacted in advance to schedule a suitable time for the interviews.

All participants resided in Port Elizabeth in the Eastern Cape. The researcher utilised an office at the university clinic on South Campus at NMU as a place to conduct interviews with participants. The clinic environment with a discrete entrance and private offices provides a professional environment wherein the confidentiality of the participants was respected. Appointments were made, where possible, during the clinic times where the least amount of human traffic is expected in the facility. The researcher debriefed the participants about important information pertaining to the present study at the beginning of the interviews. Issues pertaining to informed consent and confidentiality were discussed. Every effort was made to reduce the anxiety related to an interview situation and process. An advantage of this face to face, one on one setting was the seating arrangements that assisted in the observation of non-verbal language and cues. Interviews were conducted with one participant in the room. The interviews took approximately sixty minutes each depending on the duration of the question exploration.

The interviews were recorded using an audio recording device, and then transcribed by a professional transcriber so that the written data could be analysed (See Appendix F and Appendix G for confidentiality agreement). Once the interviews were completed and the data was analysed the researcher conducted another debriefing session with each participant at the university clinic on South Campus at NMU. The debriefing session was conducted in order to clear any misconceptions that might have arisen and answer any questions or concerns that the participants may have had. As per ethical requirements, the data will be stored at the university for five years.



### 4.8 Data collection methods

The collection of data was initiated using the biographical questionnaire (see Appendix B). The potential participants were sent an electronic copy of the biographical questionnaire via email and were asked to answer the questions prior to the interview. This was used to identify participants who were relevant to the present study in terms of the predetermined criteria (discussed earlier in the chapter) specific to the present study.

The data collection process continued with individual, semi-structured interviews (see Appendix C). Semi-structured interviews can be seen as an umbrella for varying types of interviewing techniques regularly used in qualitative research (Mason, 2004). These interviews are viewed as organised around areas of particular interest, while still allowing considerable flexibility in scope and depth. This flexibility is particularly valuable in the present study as it allowed the participant to include and discuss other issues that may be used to expand their experience of PIU with MMOGs. In this relationship, the participant may be perceived as the expert on the subject and should therefore be allowed maximum opportunity to tell his or her story (Cohen & Crabtree, 2006). The advantages of using semi-structured interviews include the freedom given to participants to voice their experiences and opinions in their own words. It also produces much detail and can provide trustworthy data. However, it may lack in scientific comparability between interviews due to open-ended questions and the flexible interviewing style (Cohen & Crabtree, 2006).

These interviews were guided by a semi-structured interview schedule, but remained flexible in order to allow for the participants to fully describe their experiences of PIU with MMOGs, giving first person reports. Interviews are viewed as appropriate for research that requires detailed information of emotions and experiences from a small number of research participants (Warren, 2001). Participants had a wealth of complex

knowledge regarding the phenomenon under investigation, including their explicit and immediate assumptions that can be expressed spontaneously during a semi-structured interview.

The interviews were recorded using an audio-recording apparatus. The use of the recording device was to ensure that data obtained in the interviews was accurately captured. This was done in the sense that such devices have no vested interest in the study and thus cannot distort the information obtained from the participant's discussions. The possible negative effects of using a recording device could be that the participants may become shy.

To overcome this disadvantage, the recording device was only activated once the researcher was certain that the participant had reached an adequate level of comfort. Once the interviews were completed, the data was transcribed verbatim by a professional transcriber (See Appendix F for confidentiality agreement). The transcription into text was necessary in order to be used during the data analysis process.

Of utmost importance and concern in a study of this nature, is confidentiality and anonymity. The researcher explicitly reassured the participants that their confidentiality and anonymity in participating in the present study will be maintained. The researcher achieved this through the use of an informed consent form (see Appendix E) and by utilising the interview skills developed during her clinical psychology internship year.

### **4.9 Criteria for Internet gaming disorder**

All seven of the participants met the proposed criteria for IGD as indicated in the DSM-5 (APA, 2013). According to the DSM-5 (2013), IGD is distinguished as persistent and recurrent use of the Internet to engage in games, often with other players with behaviour as indicated by five (or more) of the following within a 12-month period:

## **PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES**

- Is preoccupied with Internet games (e.g. the individual thinks about previous gaming activity or anticipates playing the next game; internet gaming becomes the dominant activity in daily life).
- Withdrawal symptoms when Internet gaming is taken away (these symptoms are typically described as irritability, anxiety, sadness, but not physical signs of pharmacological withdrawal).
- Tolerance, the need to spend increasing amounts of time engaged in Internet games.
- Has repeated unsuccessful efforts to control participation in Internet games.
- Loss of interest in hobbies and entertainment as a result of Internet games.
- Use of Internet games as a way of escaping from problems or of relieving a dysphoric mood (for example, feelings of helplessness, guilt, anxiety, depression).
- Lies to family members, therapist or others to conceal the extent of involvement with Internet games.
- Has jeopardised or lost a significant relationship, job, or educational or career opportunity because of Internet games.

### **4.10 Data analysis**

Once the data obtained from the interviews was collected and transcribed, the data processing and analysis was conducted in accordance with the principles and guidelines of transcendental phenomenological research. Central to this approach are the four phenomenological processes previously described in the chapter, namely: epoche, phenomenological reduction, imaginative variation, and the synthesis of meaning. These processes were incorporated into the present study through the use of thematic analysis

procedures developed by Braun and Clarke (2006) as well as Lincoln and Guba's (1985) model of trustworthiness.

Thematic analysis is a method utilised in order to identify, analyse, and report themes within data (Aronson, 1994; Braun & Clarke, 2006). Using this method of analysis produces a rich, detailed, and complex account of the data. Thematic analysis can be seen as flexible, accessible and appropriate for most qualitative data analyses, given that the theoretical position of the analysis remains transparent (Braun & Clarke, 2006). In the present study, the phenomenon that was the topic of focus was male adults' experiences of PIU with MMOGs, and the aim of data analysis was to provide rich descriptions of the participants' subjective, lived experiences of this phenomenon.

Due to the flexible nature of thematic analysis, it is important to consider the type of analysis one would want to do, as well as the claims one would want to make regarding the data. With regards to phenomena that are under-researched, or when the participants' responses to the interview question are not yet known (as is the case in the present study), Braun and Clarke (2006) assert that thematic analysis can be used effectively. In this sense, thematic analysis provides a rich thematic description of the entire data set (all interview data) so as to reveal predominant themes across the data set (Attride-Stirling, 2001). These themes should be an accurate reflection of the content of all data and will be identified using an inductive approach. This bottom-up approach ensures that themes are linked to the actual data and are not driven by the researcher's biased interest and/or preconceptions.

Another important consideration to be made when using thematic analysis is the level at which themes will be identified. In the present study, themes were identified at an interpretative, or latent level. At this level, the researcher is not only interested in what the participant says and how the data can be organised, but attempts to speculate about

the significance of the themes and patterns within the content, and their broader meanings, interpretations, and implications (Braun & Clarke, 2006). Thematic analysis is a recursive process of constantly moving backward and forward between the data set, coded extracts, and the analysed data. The analysis also involves writing and jotting down ideas throughout the phases of analysis (Braun & Clarke, 2006).

Braun and Clarke (2006) identified six phases in thematic analysis. The first phase involves becoming familiar with the data (after it has been transcribed). The researcher completed this phase by reading and re-reading the data while annotating any initial ideas that the researcher may have in order to produce a general sense of the content of each interview. The second phase involves generating the initial codes. The researcher coded interesting features of the data in a systematic way across the entire data set. Data relevant to each code was collated. Thirdly, the researcher collated the different codes into potential themes or patterns (Aronson, 1994). All data relevant to each potential theme was collated. The fourth phase in thematic analysis involves reviewing these themes. Here the researcher identified whether the themes work in relation to the coded extracts as well as the data set. In this way, a thematic 'map' of the analysis was generated. Once this had been done, the researcher clearly defined and named the various themes. This comprises the fifth phase of analysis. During this phase, there was an ongoing analysis in order to refine the specifics of each theme and the overall theme or story of the analysis as a whole. The final phase of analysis involved producing a report of the analysis. Vivid and compelling extract examples were selected and finally analysed, and the analysis was related back to the research question and literature (Aronson, 1994). The researcher was then ready to produce findings and discussions on the data collected.

To ensure the credibility of the data analysis and research findings, an independent coder simultaneously analysed the themes identified by the present researcher (See Appendix G for confidentiality agreement). Once the analyses had been completed, the present researcher and independent coder consulted on their findings to ensure the integrity of the findings obtained from the data analysis.

### **4.11 Establishing trustworthiness**

The trustworthiness of qualitative research has often been held in reservation by some researchers due to concerns regarding validity and reliability, which can be difficult to attend to within naturalistic studies. However, there has also been much debate emphasising research methods and how qualitative researchers can address these difficulties (Lincoln & Guba, 1985). Lincoln and Guba's (1985) constructs, in ensuring trustworthiness in qualitative research, were employed in the present study. The constructs include credibility (providing a true picture of the phenomenon), transferability (justified application of findings to a similar context), dependability (possibility of future repeated studies) and confirmability (showing that findings are not due to the researcher's own predispositions) (Shenton, 2004).

Firstly, credibility refers to internal validity in terms of the study measuring what it set out to test. Essentially it is the confidence held in the 'truth' of the data. This principle is closely linked to the nature of transcendental phenomenological research in which the aim of the study is to accurately describe the phenomenon within the parameters in which it occurs (De Vos et al., 2005). The principle of credibility was achieved in this study by providing an accurate and detailed description of the lived experiences of male adults' PIU with MMOGs. This was later verified by the research participants.

Secondly, transferability indicates the external validity of the findings which examines the extent to which these findings can be applied to other contexts. This principle was addressed by the researcher through the discussion of the theoretical parameters of the present study, including the models and concepts used in the collection and analysis of data.

Thirdly, dependability, involves focusing on the reliability of the study with regards to the consistency of the findings and whether the same study could be repeated to yield the same results. Furthermore, it refers to the efforts by the researcher to explain any changes that are observed in the phenomenon (De Vos et al., 2005). This principle is associated with the phenomenological understanding that all experiences occur as part of the individual's construction of reality thus allowing the possibility of multiple realities (Denscombe, 2003). The researcher attained dependability by accounting for any changes identified in the phenomenon as well as any possible changes in the design of the study that occurred as a result of enhancing the understanding regarding the phenomenon. Furthermore, the researcher ensured that the interviews were also analysed by an independent coder to assess the process and findings of the present study in order to evaluate the trustworthiness of the data.

Lastly, confirmability refers to the objectivity of the study, which can be affected by researcher biases. In essence, it focuses on the level of neutrality and the manner in which findings have been influenced by the participants rather than the motivation or interests of the researcher (Lincoln & Guba, 1985). This principle was incorporated into the study as far as possible by adhering to the phenomenological principle of epoche. The researcher continued to consult with her research supervisor and remained cognisant of her own subjective opinion and remaining neutral throughout the present study thereby ensuring that contamination did not occur during data collection and analysis.

Furthermore, the researcher provided a thorough clear descriptive record of the research steps taken from beginning to end, and through reflexivity, which refers to the manner of attending to the context of information, and particularly the effect of the researcher at every step of the study. These four criteria can assist the researcher in managing the trustworthiness of the findings and conclusions throughout the research process (Shenton, 2004), and was adhered to during the present study.

### **4.12 Ethical considerations**

The researcher is bound by ethical research practices that include the responsibility to be honest and respectful to all individuals involved or affected by this research study (Gravetter & Forzano, 2006). Researchers have two basic categories of ethical responsibility, namely, to responsibly conduct research in a manner that ensures the welfare and dignity of the participants of the research study, and to ensure that the reported evidence of the research is accurate and honest (Gravetter & Forzano, 2006).

The Health Professions Council of South Africa (HPCSA, 2006) provides Ethical Principles for Psychologists and a Code of Conduct as guidelines for the researcher in order to establish a harmony between values, quest for knowledge and the rights of the individuals involved in the research.

Ethical considerations that are recognised as essential to the process of the present study include: (1) institutional approval and clearance, (2) informed consent, (3) avoidance of harm, (4) avoidance of deception, (5) privacy, confidentiality and anonymity, (6) accurate dissemination of findings, (7) competence of the researcher, and (8) debriefing (HPCSA, 2006).

**4.12.1 Institutional approval.** According to the guidelines provided by the HPCSA (2006) institutional approval must be obtained before conducting a research



study. As mentioned earlier in the chapter, the researcher presented a proposal of the present study to the Psychology Department of Nelson Mandela University (NMU). Once departmental approval was gained, approval for the study was obtained from the Faculty Post Graduate Studies Committee as well as by the Human Ethics Committee prior to conducting the interviews.

### **4.13 Informed consent**

A researcher has an ethical responsibility to make clear to the participant what the research entails, including any possible risk to the participant, and to respect the dignity and rights of the individual during the research experience (Feldman, 2011).

The research participants should understand the information and make a voluntary decision whether or not to participate in the specific study. This process was adhered to and was preceded by a discussion surrounding pertinent aspects of the research as well as participation in the study.

The following relevant information was outlined in an informed consent document and was in accordance with guidelines for conducting ethical qualitative research. The informed consent document (see Appendix E) highlighted the following information in detail and required the participant's signature: (1) the purpose of the research and details of the researcher, (2) research procedures, (3) potential risk from participation in the study, (4) confidentiality and limits to confidentiality, (5) access to the study and dissemination of findings, (6) confirmation regarding voluntary participation, and the right to withdraw from the study. Furthermore, the present researcher took necessary precautions to ensure the participants felt comfortable and safe by staying mindful of the following ethical guidelines;

**4.13.1 Risks and benefits.** When investigating sensitive issues in a qualitative study, the researcher must be aware of the potential impact of the questions on the research participants of the study (Flick, 2006). No potential psychological risks were identified by the present researcher prior to conducting the interviews. However, during the interviews the researcher ensured that the discussion did not cause psychological discomfort or distress to the research participants. This was accomplished by observing the non-verbal cues of the research participants. When such non-verbal cues were identified, the researcher guided the conversation in a manner that attempted to reduce the discomfort or distress of the research participants. In addition, there were no direct benefits involved in partaking in this study; however, the results of the study aimed to bring about a broader understanding of male adults' lived experiences of PIU with MMOGs.

**4.13.2 Avoidance of deception.** It is an integral requirement that the researcher avoid deception in the research study. Any deception should be disclosed to the research participants at the earliest opportunity (APA, 2010). The researcher did not use any strategies of deception as part of the present study and provided research participants with any and all information required to make the present study transparent, thereby allowing the participants to make an informed decision about choice of participation.

**4.13.3 Privacy, confidentiality and anonymity.** "Confidentiality in research implies that private data identifying the participants will not be reported" (Willig, 2008, p.266). Privacy can be maintained by ensuring anonymity of the research participants through the use of pseudonyms and confidentiality of information provided by the research participants (Neuman, 2003). The research participants' privacy was ensured through the use of pseudonyms that were standardised for all research participants, thus excluding all personal references.

All information gathered during the research process was securely maintained by the researcher in a manner that access was restricted to only the researcher and research supervisor. Identifying information was only known to the researcher to preserve the anonymity of the participant. The protection of privacy was provided through the use of encryption and anti-malware software, where possible, on electronic technology.

**4.13.4 Accurate dissemination of findings.** In order to accurately disseminate the findings of the research, the researcher will ensure that the findings of the present study will be made available to the research participants once the study has been completed. The final research study will be submitted in the form of a treatise, in partial fulfilment of the requirements for the degree of Master of Arts degree (Clinical Psychology). The treatise will be submitted to the South Campus library of Nelson Mandela Metropolitan University.

**4.13.5 Competence of the researcher.** Psychologists conduct research with populations and in areas only within the limits of their competence, based on their education, training, supervised experience, consultation, study or professional experience (APA, 2013).

The researcher worked according to the structure provided by the research proposal under the guidance of an experienced senior researcher and supervisor. The present researcher strived to maintain ethical principles and conduct throughout the research process and reported any concerns or questions to the supervisor. Furthermore, the researcher was able to do this using the expertise developed in data-gathering and interviewing during her psychology internship year.

**4.13.6 Debriefing.** The intent of debriefing is to reduce or minimise harmful effects (Gravetter & Forzano, 2006). The HPCSA (2006) states in the Ethical Principles for Psychologists and Code of Conduct that debriefing is an opportunity for participants to

gain information and feedback regarding the research study they have participated in, unless it is established that the participant may be harmed by the disclosure of this information. Debriefing is a useful disclosure method that can be used in research, and forms an important part of this proposed study due to its sensitive nature. The process of debriefing involves a thorough discussion with each participant to ensure their psychological wellness at the end of the interviews. The present researcher engaged in the process of debriefing at the beginning of the interviews with each research participant. The debriefing discussion included, a general outline of the research, particularly what was being investigated and the purpose of the investigation. In addition, the participants were clearly informed of their role in the research, and were given an opportunity to ask any questions that were answered as openly as possible (McLeod, 2007).

The researcher then met with the participants for further debriefing once the interviews were completed, processed, and analysed. The participants were given the opportunity to rectify any misconceptions that might have arisen and were asked to provide any information about the interview process that they felt was not interpreted correctly or the meaning assigned was not accurate. All research participants left with their questions answered and the underlying meaning of information conveyed, accurately communicated.

### **4.14 Conclusion**

This chapter discussed the methodological underpinnings of the present study. Attention was given to the notion of transcendental science and the major processes of phenomenological research used in the present study. The chapter presented a description of data collection methods and research procedures utilised in the present study. The

understanding of transcendental phenomenology with qualitative research techniques highlighted the integration of the principles and procedures within the exploration of male adults' experiences of PIU with MMOGs.

Furthermore, an exploration of the review of data processing and thematic analysis procedures were emphasised in order to gain insight into the relevant models that were incorporated into the research methodology. Implementing this methodology ensured that the research findings were obtained through methods that enhanced the trustworthiness of the research. The chapter concluded with a discussion of how pertinent ethical considerations were implemented into the research design and methodology.

Chapter five will explore the findings obtained during the present study in order to provide further insight into the phenomenon of male adults' lived experiences of PIU with MMOGs.

## Chapter 5

### Findings and Discussion

*Research is to see what everybody else has seen, and to think what nobody else has thought.*

*(Albert Szent Gyorgyi, 1893)*

#### 5.1 Introduction

A transcendental phenomenological study describes the meaning of the lived experiences of individuals about a specific phenomenon. Phenomenological data analysis proceeds through the methodology of reduction, the analysis of specific themes that emerge, and the search for possible meanings (Moustakas, 1994). The present researcher set aside prejudgements by bracketing her experiences and relying on intuition, imagination, and universal structures to highlight the experiences.

Therefore, through the application of epoche, phenomenological reduction, and imaginative variation, an illustration of the lived experiences of problematic Internet use (PIU) with massively multiplayer online games (MMOGs) among male adults was revealed. The final step of the phenomenological research process is the synthesis of meanings. This involves exploring and integrating the fundamental descriptions into a unified statement to obtain the essence of the experience of the phenomenon as a whole (Moustakas, 1994). This chapter will allow for the exploration of the phenomenon of PIU with MMOGs by providing a discussion of the findings of the present study.

## 5.2 Biographical description of the participants

Table 1 provides a description of the participants in terms of demographic variables. The table aims to contextualise the present study. Knowledge of each participant's biographical information deepens the potential insight and understanding of the meanings that may be attached to their PIU with MMOGs. This information was obtained from the biographical questionnaire (see Appendix B).

It is difficult to identify an accurate prevalence of PIU with online gaming in terms of culture, age, gender, race or ethnicity since there have been few studies that have used nationally representative samples (Ko, Yen, Chen, Chen & Yen, 2005). Pontes and Griffiths (2014) argue that it is difficult to study any disorder with a low prevalence rate such as gaming addiction. For this reason, it is important to note that although each participant in the present study is from one race, there are several different races within the South African context. Furthermore, the beliefs and values of different cultural groups could have an influence upon the online gaming behaviour and the perception thereof.

Table 1: Demographic information

Participant Number	Gender	Race	Age	Language	Proposed Inclusion criteria (DSM-5)
1	Male	White	30	English	7/9
2	Male	White	38	English/Afrikaans	6/9
3	Male	White	26	English/Afrikaans	5/9
4	Male	White	21	English	5/9
5	Male	White	40	English	6/9
6	Male	White	39	English/Afrikaans	6/9
7	Male	White	19	English	7/9

The above table illustrates information such as gender, age, race, language and proposed criteria met according to the Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association [APA], 2013). Such variables give rise to generalisations that may be made about the participants of the present study. All participants were male adults over the age of 18 years as stipulated in the inclusion criteria for the present study. The participants' ages ranged from 19 to 40 years, with a mean age of 30 years. The mean age of the present study correlates with previous studies conducted which indicated the mean average age of 27.9 years and 31.2 years (Griffiths, Davies & Chappell, 2004; Williams, Yee & Caplan, 2008). All participants were white which could suggest the influence of race and consequently of culture on massively multiplayer online gaming behaviour. All of the participants speak English, with three participants speaking both English and Afrikaans. All participants are currently employed and receive a monthly income. All participants have met the proposed criteria for Internet gaming disorder (IGD) as found in the DSM-5 (APA,



2013). The minimum criteria met for IGD was five out of the nine proposed diagnostic core features.

### **5.3 Exploring the nature of the participants**

The researcher felt that it was noteworthy to highlight that the depth of the findings of the present research was reliant on the nature of the participants and the level of insight that they had into their massively multiplayer online gaming behaviour.

Despite building rapport, the researcher experienced a level of frustration regarding the participants' insight into their massively multiplayer online gaming behaviour. The participants' answers were brief and, even when probed, they found it difficult to provide further insight, possibly because they had never thought extensively about their massively multiplayer online gaming behaviour.

The researcher is of the opinion that the nature of the participants may be reflective of personality factors related to the types of individuals who spend excessive amounts of time playing MMOGs. According to literature, online gaming appeals to individuals who have high neuroticism because they have a tendency to prefer emotion-focused coping strategies involving distancing themselves from problems, the avoidance of problems, and engagement in wishful thinking (Brunborg et al., 2013; Cole & Hooley, 2013; Mehroof & Griffiths, 2010; Zhong & Yao, 2013). The literature highlights the researcher's observation by identifying that individuals who play MMOGs engage in avoidance as a form of coping which would influence the level of insight that they have into their behaviour.

## **5.4 Categories and themes**

The research data is presented according to the categories and themes that emerged during the process of qualitative thematic analysis. These categories and themes illustrate the aspects that emerged most frequently during the analysis of the participants' conversation with the researcher. These categories and themes thus reflect the most pertinent aspects related to the participants' experiences of massively multiplayer online gaming. An overview of the categories and themes that emerged during data analysis is presented in Table 6 to provide the reader with an outline of the findings that are to be discussed below. It is important to note that there may be an overlap between some of the sub-themes presented within each theme. However, the reader will be directed to the sections where an overlap is noted.

**Table 2: Categories and themes**

Main area	Category	Theme	Sub-theme
Description of initial use	Initiating factors	Type of game played Aspect of being online	Playing other people
Reasons for massively multiplayer online gaming	Enhancement motive	Enjoyment Sensation-seeking Aspect of winning	Reward incentive
	Coping Motive	Escape Creating virtual reality	Life stressors Negative emotion
	Online Social Engagement	Online relationships Online social support	
	Online Identity		
	Skill development	Critical thinking	
Consequences of massively multiplayer online gaming	Self	Health Emotional dysregulation Substance abuse	
	Others	Relationship strain	

Perception of PIU with MMOGs	Features of Addiction	Preoccupation  Withdrawal  Unsuccessful efforts to cut back  Escape	
Treatment	Disregard for treatment		

## 5.5 Analysis of findings

The content below will dissect the table above in order to enhance the understanding of the participants' experiences of PIU with MMOGs. A description of the themes that have emerged throughout the present study will be analysed and discussed in association with the current literature on the present topic.

**Table 3: Description of initial use.**

Main Area	Category	Theme	Sub-theme
Description of initial use	Initiating factors	Type of game played  Aspect of being online	Playing other people

### 5.5.1 Description of initial use

**5.5.1.1 Initiating factors.** The researcher identified initiating factors as a category within the present study. According to literature, it is important to take into account the

fact that two gamers may play for an identical number of hours each day, but their psychological motivation and the meaning that gaming has within their lives can be very different (Griffiths, 2010). The two themes identified from initiating factors were the types of games played and the aspect of winning.

*5.5.1.1.1 Type of game played.* The participants in the present study all identified a preferred type of online games. All seven participants described their initial preference for massively multi-player online role-playing games (MMORPGs), more specifically the MMORPG called World of Warcraft (WOW). The findings of the present study concur with the literature which indicates MMORPGs as one of the fastest growing forms of online games available worldwide (Moon et al., 2013). Yee (2007) highlights that role-playing online games incorporate a virtual environment in which a story line evolves overtime and various positive and negative events occur periodically in the context of contingencies that are often appealing to the players. The researcher is of the opinion that the participants were attracted to the role-playing or fantasy aspect of this type of MMOG, as this is what distinguishes MMORPGs from other types of MMOGs. The three quotes below provide evidence for the participants' preference for the MMORPG WOW:

*I started playing this game called World of Warcraft, which is a massively multiplayer online role playing videogame.*

*...when we did get internet obviously, everyone goes to WOW (World of Warcraft) when they are gaming.*

*I play a bit of World of Warcraft and I play League of Legends.*

*5.5.1.1.2 Aspect of being online.* The second theme that emerged identified that participants regarded massively multiplayer online gaming as an enjoyable experience that emerged after offline games became a novelty. The initial interest in massively

multiplayer online gaming for most participants was the aspect of being online and competing against other individuals rather than a computer. Yee (2007) highlights the aspect of being online by emphasising that the consumption of traditional media allows individuals to have little direct influence on the media content, while online computer gaming allows the individual to experience an interactive process.

The initiation of online gaming with other individuals suggests that competing against a computer becomes redundant and the need for the further challenge, unpredictability, and stimulation provided by playing other individuals is associated with the initiation of massively multiplayer online gaming behaviour. The participants describe their attraction to MMOGs:

*I guess it was the competitiveness, unpredictability of your opponent and that you are beating another person instead of just a programmed computer.*

*Well the whole idea of competing against a human being and not a robot is part of the massive attraction. It is like you can actually put your skills against not artificial intelligence, as humans are more unpredictable.*

*Knowing that I can take somebody across the world in the game, being a little bit quicker than them.*

During each conversation with the participants the question was asked: “What attracted you to online gaming?” Drawn from the subjective experience of each participant, it was noticed that the challenge and unpredictability of competing against other individuals was an initial factor that attracted the majority of participants to the activity of online gaming. The aspect of playing online against other people was identified as a sub-theme. The majority of participants (six out of seven) initiated their gaming behaviour because of the fact that you can compete against other individuals,

with the exception of one participant who was attracted to the social aspect of massively multiplayer online gaming.

**5.5.2 Summary of theme.** The researcher identified initiating factors as a category that emerged when participants provided a description of their initial use of MMOGs. The two themes identified from initiating factors were the types of games played and the aspect of competing and winning. All seven participants described their initial preference for MMORPGs, more specifically the MMORPG called World of Warcraft. Six out of seven participants initiated their massively multiplayer online gaming behaviour primarily due to the aspect of competing and winning against other individuals rather than a computer. Only one participant indicated being attracted to the social aspect of massively multiplayer online gaming.

**Table 4: Reasons for massively multiplayer online gaming.**

Main area	Category	Theme	Sub-theme
Reason for massively multiplayer online gaming	Enhancement motive	Enjoyment	Reward incentive
		Sensation-seeking	
		Aspect of winning	
	Coping motive	Escape	Life stressors
		Creating a virtual reality	Negative emotion
	Social engagement	Online relationships	
		Online social support	
	Online identity		
	Skill development	Critical thinking	

**5.5.3 Reasons for massively multiplayer online gaming.** The phenomenon of PIU with MMOGs is multifaceted. The online gamers can be motivated to play the same game for different reasons. It is important to explore gamers' motivation for playing a certain online game because it can determine the extent to which the players are absorbed in the gaming world (Zhong & Yao, 2010). Participants described several reasons for their massively multiplayer online gaming behaviour. However, there was more than one theme that emerged regarding the attraction to the online gaming environment. In fact, different findings were identified as some participants enjoyed the strategy aspect of the environment, whereas other participants enjoyed the social and interactive features of online gaming.

The researcher supports this notion as it is evident in the present study that each participant had their own reason for playing MMOGs. The researcher identified the following main reasons for massively multiplayer online gaming behaviour including: enjoyment, sensation-seeking, aspect of winning, escape, creating a virtual reality, social engagement, online identity, and skill development.

**5.5.3.1 Enhancement motive.** The researcher identified the enhancement motive as one of the categories that emerged from reasons for playing MMOGs. Many online gamers find their motivation to continue playing online games comes from the sense of excitement or euphoria that they feel most often linked to various achievements and rewards in games, its social connections, and the exploration of virtual worlds (Yee, 2007). From this literature, it is clear that enhancement promotes positive emotions and many of the participants in the present study experienced MMOGs as a means to reinforce these positive emotions through engagement with the enjoyable practice.

**5.5.3.1.1 Enjoyment.** The first theme that emerged from the enhancement motive was the theme of enjoyment. Participants described that one of the reasons for playing



MMOGs was merely for enjoyment. The literature suggests that there is a considerable amount of evidence identifying enjoyment as a strong determinant of an individual's intention to play online games (Wu et al., 2010; Wu & Lui, 2007; Zhong & Yao, 2013). The researcher poses the question as to whether the enjoyment being experienced by the participants is a result of the possibility of winning the MMOG? The experience of winning a MMOG and the possibility of beating other individuals may produce greater excitement and arousal. The participants describe below, in their own words, the theme of enjoyment.

*But also, that I just enjoy playing. It is pure enjoyment when playing against other guys and trying to match myself up against some of them.*

*It is also a form of enjoyment and relaxation. It is mostly the fact of whether the game can give me a good feeling.*

*Just generally having fun in the game itself, doing random silly thing like free roaming when you can explore and cause problems for other players.*

The aspect of enjoyment was experienced by four participants who perceived MMOGs as a pleasurable activity. It is evident from the findings of the present study that the enhancement motive that promotes positive emotions was experienced by participants and that MMOGs provide a means to reinforce these positive emotions.

**5.5.3.1.2 Sensation-seeking.** The second theme that emerged from the enhancement motive was sensation-seeking. All seven participants expressed that a primary motive for continued use of MMOGs related to a positive sensation experienced when achieving rewards with MMOGs. Participants describe in their own words the element of reward related to sensation-seeking:

*Yes, you then get loot rewards and that is a big driving factor in massively multiplayer online games for me, the loot progression. How the character starts to look better and perform better based on your efforts that you put in.*

*It is called grinding. If you grind the game a lot it is repetitively doing the same things to get highly sort after guns (rewards) which are ranked as the best guns in the game.*

*Like they present you with little tasks that you do and then you get reward. You grind a little bit and you get your reward. I am aware of that, but you still want to chase that reward, which is a big part of the game for me.*

*When you win rewards, you can build your avatar and buy things to add value. You feel powerful.*

The findings of the present study are aligned with the literature which highlights that the appeal of MMOGs is that it incorporates challenges that compel players to continuously refine their skills, therefore the players strive to advance to higher game stages and tend to become immersed in the action (Wu, Scott & Yang, 2013). The findings of the present study reveal that participants spend a substantial amount of time doing what they identify as grinding in order to achieve rewards in the MMOG. One participant related receiving rewards to the sensation of feeling powerful. From these findings, the researcher suggests that sensation-seeking related to achieving rewards is seen as a primary reason behind continued gaming and ultimately PIU with MMOGs. Furthermore the achievement of reward can be seen as a sub-theme within the theme of sensation-seeking.

*5.5.3.1.3 Aspect of winning.* The final theme that emerged from the theme of the enhancement motive was the aspect of winning. The aspect of winning does not relate to rewards, but specifically to winning against other people. The MMOGs present an

opportunity to compete against and beat other players online, which generates excitement by allowing the participants to experience a sense of achievement. All seven participants expressed competing and winning against other players online as a factor that attracted them to MMOGs:

*Knowing that I can take out somebody across the world in a game, being a little bit quicker than them, besting somebody else.*

*You always want to be better than the person you are playing against. The goal is to decimate your opponent.*

*Winning....is a subconscious milestone in that specific game and against those guys that I play with online.*

Nixon and Solowoniuk (2009) propose that a hero complex may be present. Pathological gamers, for example, may have within them a hero-complex that moves between seeking success while playing the game in order to hold a sense of self that outwardly displays confidence, and a self that may internally feel weak. The individual's attachment to the behaviour is one in which the behaviour can be viewed as potentially addictive (Nixon & Solowoniuk, 2009). From these accounts of the participants, it can be concluded that the aspect of competing against others, more specifically winning, provides the individual with a positive emotion and self-esteem that encourages continued use of the MMOG.

**5.5.3.2 Coping motive.** The second motive associated with the appeal of MMOGs refers to the coping motives. Coping motives are identified as the individual's continued use of MMOGs as a way to escape from reality (Yee, 2007). Therefore, massively multiplayer online gaming serves as a form of escapism, a coping motive for the particular individual.

5.5.3.2.1 *Escaping.* The MMOGs allow the gamers to escape their everyday real-world problems by immersing themselves in a fantasy world (Attwood, 2006). When gaming becomes a standard way to resolve or avoid any type of dysphoric state, it tends to become problematic (Caplan, 2003; Davis, 2001). Participants shared their account of escaping in the following manner:

*Yes. It is like an escape. When there are bad things going down or when your mind is full of whatever is happening in your life, gaming is like an escape. If you just go play the game, everything else disappears and I just get into tunnel vision.*

*You can switch off. If you have had a crappy day, you can just joke about it.*

*I really enjoy gaming and it helps with stress...in my case I see it as a good stress reliever.*

*I would say it is an escape. If I meet somebody I wouldn't play as much but I would still play. I enjoy playing but I definitely think it is a substitute for loneliness.*

Four out of the seven participants shared a need to escape from what they were experiencing in reality. More specific reasons for escaping as identified by these participants were related to the sub-theme of life stressors (including everyday problems), loneliness, and negative emotion. The findings obtained in the present study indicated that escape from reality was not necessarily perceived as the most significant motive for the participants to play MMOGs. However, other literature identifies escape from reality as a primary motive for playing online games (Hussain & Giffiths, 2009; Kim, Par, Kim, Moon & Chun, 2002; Yee, 2006). The researcher posed the question as to whether or not a possible reason for the present findings was the participants' lack of insight into their psychological need for escape as a primary motive for online gaming?

5.5.3.2.2 *Creating a virtual reality.* The second theme that emerged from the coping motive was the creation of a virtual reality or fantasy. For many individuals,

interest in MMOGs emerges from the creating of virtual worlds (Young, 2009). Three out of the seven participants account for the importance of creating a virtual reality as an appeal of MMOGs:

*The fantasy part of it. It is a fantasy that I cannot get in reality because you can do things in the game that is frowned upon in the real world.*

*Why I fell in love with gaming was the fantasy of the story line. Gaming gives a medium that can tell a story that no other medium can, movies cannot make you feel what you feel when you are playing...it's like euphoria...There is no movie that can make you feel the way that the game did.*

*What really attracted me to World of Warcraft and League of Legends was that there is a lore behind these games, to learn about a different world where there are these little yordle things, and you learn about how they live in the forest. It was really interesting learning about that and it gets your mind thinking creatively.*

The appeal for a virtual reality allowed the researcher to consider the prospect of fantasy by reflecting that perhaps the importance of fantasy in creating a virtual reality for participants is another form of escape. One participant highlights the element of escape when asked about the importance of the element of fantasy with MMOGs:

*I cannot go out the front door, get into a ship and go up to the moon and experience it. I can sit with my Xbox and television and almost experience it by living a life vicariously through my character.*

Elliott (1994) conceptualises the element of playing out of fantasy found in MMOGs as a means of temporarily filling a vacuum or empty feeling experienced by the individual. Thus, highlighting that escape from reality may be a motive that is more important than identified by participants. Attwood (2006) further points out that these games allow the gamers to escape their everyday real-world problems by immersing

themselves in a fantasy world. The researcher questions whether participants experience denial about their ability to cope with life stressors and their reliance on MMOGs?

**5.5.3.3 Online social engagement.** The third motive for playing MMOGs refers to online social engagement. The MMOGs have been called social outlets as needs and desires that they fulfil mostly involve online social engagement (VanCott, 2008). The findings of the present study revealed two themes related to online social engagement, namely, online relationships and online social support.

**5.5.3.3.1 Online relationships.** Many online gamers help and communicate with other players with the expectation of creating long-lasting meaningful relationships with them (Yee, 2007). This communication, which is an essential component of MMOGs, improves social interaction, game performance, and enjoyment, through the formation of social networks (Moon et al., 2013). When asked about the positive aspects of massively multiplayer online gaming, participants describe in their own words the element of online relationships:

*Like with World of Warcraft was the social aspect of being able to play with other people...The social aspect was the major drawing factor.*

*Yes. I have made so many friends (online). If I wanted to go to Cape Town now I can just call up some of my gaming buddies and ask if I can stay at their house and they will say yes.*

*Playing with other guys, we have never met each other before in our lives and it is just camaraderie, a mutual respect. It is almost like we have been friends forever.*

*I have met people through World of Warcraft that I am still friends with now that live in Witbank and I visited them....I have developed a friendship with some people online.*

*As I say with online games you can meet people from all over the world, you get in touch with so many different cultures and so many people. You start to grow a friendship with these people because it is easier than making friends offline as there is no pressure of face-to-face interaction.*

All seven participants experienced building online relationships while playing MMOGs. It is evident from the findings of the present study that the participants experienced building online relationships as an important aspect of MMOGs. The literature supports the findings of the present study by identifying that making online friends is a highly important aspect of online gaming (Zhong & Yao, 2013). Furthermore, van Rooij et al. (2010) highlight that the social aspect of online gaming contributes to the addictive nature of the games. Caplan (2007) suggests that preference for online social interaction predicts the extent to which a user engages in PIU. The social skills deficit theory proposes that PIU with MMOGs is due to an individual's problematic psychosocial predispositions which cause the individual to gravitate towards excessive online social interaction, which in turn increases their problems (Joinson, 2001). The researcher questions whether individual's experiencing difficulties with social competence are attracted to online relationships created with MMOGs? Furthermore, the researcher is of the opinion that creating online friendships provides the player with a sense of belonging in that they have a common interest and feel understood by other online players which they may not experience with individuals in their immediate environment.

**5.5.3.3.2 Online social support.** The second theme that emerged from the social engagement motive was the appeal of online social support within MMOGs. Online gaming provides the capacity for allowing supportive group play and social interaction among gamers which makes online gaming more addictive than offline gaming (Griffiths

et al., 2004). The participants provide an account of their experience of online social support:

*The sense of achievement when you group up with a bunch of friends and accomplish a goal together that is the most fun...*

*I was incorporated into a clan with three American guys and we would play certain games together. A clan is a group or community of people who play in a team together.*

*I have participated with massive raiding guilds (groups of players) before that you will have scheduled raids. I like the aspect of it where you can play with anyone from around the world, like a global community basically.*

*The point of it is that everyone is playing in the same world and there are so many different people, you do missions together and you start to grow a friendship with these people.*

*...then we lan which is a term used to describe getting together with other people to play online the whole night.*

The majority of the participants identified online social support as a positive aspect related to massively multiplayer online gaming. Two of the participants referred to the aspect of social support as an online community with which they play MMOGs. According to Yee (2007), 79 percent of gamers form guilds to achieve commonly beneficial goals. Guild members regularly play together in the game world as many MMOGs provide guild game players with chat and instant messaging services to facilitate communication among members (Moon et al., 2013). The findings of the present study support the literature as most of the participants played MMOGs in groups with other players (also known as a guild or clan). The experience of social relationships in MMOGs allows the user to fulfil the need for belonging without the risk of negative



face-to-face impression (Baumeister & Leary, 1995). The researcher is of the opinion that the aspect of online social support allows for interaction that provides the participants with the opportunity for identification with a group, which may strengthen their feeling of belonging and identity.

**5.5.3.4 Online identity.** The fourth motive for engaging in MMOGs refers to the motive of creating an online identity. For many individuals interest in MMOGs emerges from creating an online character, commonly known as an avatar. These avatars can be seen as being a digital representation of the game player's virtual space (Zhong & Yao, 2013). According to the literature, the relationship between gamers and their avatars are highly diverse, and while some gamers may see their avatars as alternative selves, others will see them as mere playing pieces necessary to participate in an online game (Edgar, 2016). Five out of the seven participants were attracted to the online identity provided by MMOGs. The participants of the present study accounted for their specific attraction to the online identity in the following way:

*I like submerging myself and identifying with a specific character.*

*I can sit with my Xbox and TV and almost experience it by living a life vicariously through my character.*

*One of my favourite aspects about gaming is creating an online avatar because you can be a different person online. When you win rewards, you can build your avatar and buy things to add to their value. You feel powerful.*

*Then you go into a character creator, you can choose from five different races, you will select your race, you will select your class (for example, a warrior) and then you play.*

*The character might not look like me but what I would like to look like. Like Ragnar from Vikings, always with blue eyes, Nordic or Aryan race, blonde hair,*

*seven-foot-tall, lots of muscles. You can spend days and days customising your character before you even get to play and that is really an aspect that I like about gaming.*

*I enjoy working towards making the best avatar amongst my friends. The more I win the more I can add to my avatar's powers and become stronger. I enjoy the feeling of having an online persona that wins.*

Of the five participants, four expressed that the appeal of the online avatar was more related to creating a different online identity, while one participant expressed that the appeal related to the idea of submerging himself with the online avatar. Furthermore, one participant expressed the appeal of anonymity related to the online self by providing the following response:

*I guess for me it is that you can be who you want to be and no one knows who you are on the other side; just a nameless person*

. Griffiths (2000) highlights the appeal of anonymity by revealing that many individuals may be motivated to play online as they are able to engage with others anonymously, without the stakes involved in face-to-face interactions.

From the findings of the present study, it became apparent to the researcher that the main appeal for participants with the online identity was creating a different identity. The majority of these participants focused on the aspect of creating a certain online avatar that represented power. The appeal of a powerful identity is evident as the participants use words such as “*muscles*”, “*power*”, and “*win*” to describe their avatar identity. The researcher observed that when participants described creating an ideal or powerful online persona, they also experienced positive emotions themselves, revealed by their excitement in explaining their online avatar. Yee (2007) highlights that online games have been developed to allow the individual to interact with their avatar in such a way

that they can create their ideal self. Thus, the individual can create a socially acceptable self online. The researcher found that most of the participants did not directly account for the appeal of anonymity with an online identity, however, the researcher questions whether creating a different identity online may imply the appeal of anonymity?

**5.5.3.5 Skill development.** The final motive for MMOGs identified in the present study is the motive of skill development. According to the literature, the appeal of MMOGs is that it incorporates challenges that compel players to continuously refine their skills, therefore the players strive to advance to higher game stages and tend to become immersed in the action (Wu, Scott & Yang, 2013). The participants highlighted their motive for skill development in the extracts below: *You actually get to test yourself on that skill level against another human being.*

*I can analyse things better...it is really interesting learning about things and it gets your mind thinking creatively.*

*Sometimes I do notice that gaming affects your critical thinking mechanism, like how you approach a problem. I will approach something differently because of gaming experience and people will not have thought of that.*

*For me, my attraction to online gaming is not like most guys because their focus is competition and ego building, but mine is purely because it challenges the mind.*

Five out of the seven participants expressed that an appeal of MMOGs was the fact that the challenges allow them to develop their thinking, both critically and creatively. The findings of the present study concur with the literature which highlights that higher play levels include new challenges and novelty, and game advancement creates an intense motivation for online gamers (Wu et al., 2013).

**5.5.4 Summary of theme.** Participants described several reasons for their massively multiplayer online gaming behaviour. Different themes emerged regarding the

attraction to the online gaming environment. The majority of participants identified a need to play MMOGs to experience excitement (sensation-seeking) while simultaneously escaping life stressors and negative emotion. The sensation-seeking motive for participants related to the appeal of achieving rewards in the MMOG. Furthermore, social engagement related to online relationships and online social support also emerged as key motives for playing MMOGs. Both online relationships and online social support appeared to provide the participants with a sense of belonging and identity. Other motives for the continued use of MMOGs identified by the participants were enjoyment, aspect of winning, virtual reality, online identity and skill development. A summary of the number of participants that appealed to each motive can be found in the figure below.

Figure 1: Reasons for massively multiplayer online gaming

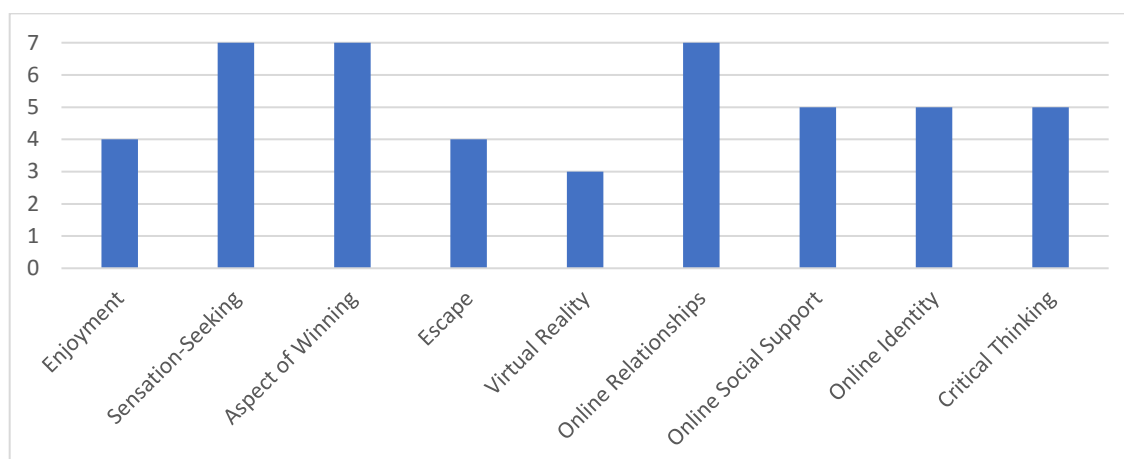


Table 5: Consequences of massively multiplayer online gaming

Main Area	Category	Theme	Sub-theme
Consequences of massively multiplayer online gaming	Self	Health Emotional dysregulation Substance abuse	
	Others	Relationship strain	

**5.5.5 Consequences of massively multiplayer online gaming.** In the present study, conversations with the participants revealed consequences of PIU with MMOGs as a category related to the participants themselves and to their relationship with others. The consequences identified by participants within themselves gave rise to the themes of health, emotional dysregulation and substance abuse. Furthermore, consequences in relation to others revealed the theme of relational strain.

**5.5.5.1 Self.** As a result of PIU with MMOGs experienced by the participants, several consequences were noted related to the self. Generally, participants expressed the degree to which they experienced health risks and a change in mood related to their

massively multiplayer online gaming behaviour. In the sharing of these consequences, certain participants further disclosed that they experienced an increase of substance abuse when engaging in massively multiplayer online gaming behaviour.

5.5.5.1.1 *Health.* The findings of the present study revealed that the majority of participants experienced some form of physiological consequence as a result of their massively multiplayer online gaming behaviour. As participants shared their experiences, the reality of how they felt about the effects of their massively multiplayer online gaming behaviour emerged:

*People don't eat. People have epileptic seizures. I know about eye aches. I have had eye aches every now and then.*

*I would say the major negative effect is sleep deprivation because of games. I need to go to sleep but I will be only so far from completing the next objective (in the online game) so then I will complete that objective and got to sleep an hour later than I should have which messes my routine up in the morning.*

*I would also say that it messed with my productivity at work because I am sitting up late at night and not getting enough sleep.*

*I think from a physical aspect, I am not as physical as I should be or where I was. I was very sporty...*

*I don't have to go play sport, I can just sit in the comfort of my own home.*

All the participants expressed consequences of PIU with MMOGs related to physiological health. The literature identifies that there are serious health considerations related to online gaming (Griffiths, 2002; Young, 2009). Young (2004) highlights that for many gamers to create more time for playing MMOGs, they neglect sleep, diet, exercise, hobbies, and socialising. The findings of the present research support previous research studies, as many of the participants experienced a lack of sleep resulting in feeling tired

and decreased work productivity the following day. One participant experienced eye aches from spending an extensive amount of time playing MMOGs. Two participants felt that they were less physically active since they started playing MMOGs.

It was interesting to note that all of these participants, except one, openly admitted that their massively multiplayer online gaming behaviour had affected their health in some way. The one participant reported: *I will just be a little bit more tired but it does not affect my performance at work. It just makes me less comfortable at work.* From this conversation, the researcher tentatively noted that the participant had rationalised his experience of being tired due to MMOGs, although it was clear that he was affected because he experienced discomfort.

5.5.5.1.2 *Emotional dysregulation.* The second theme emerging was the participants' experiences of emotional dysregulation or changes in mood as a result of extensively playing MMOGs. The participants describe their experience of change in mood state related to MMOGs below:

*After failing a few times ....I get uptight with the game ....Then aggression takes over. I am usually very grumpy and I will break things. I will swear at people for no hard reason. I am very touchy, edgy.*

*I will plan to get a certain amount of experience points and go with a certain expectation but I will go home and have a bad game which will make me flip out.*

*Because I have limited time to do what I intended and am not able to achieve the objectives now, it has messed up my day and then I will rage. Smacking walls and throwing pillows and all other kinds of stuff.*

*But when I consecutively lose then I will rage quit (impulsively quit the game due to an excessive feeling of anger). I get pretty loud and rowdy.*

Four out of seven of the participants expressed experiencing a change in mood state as a consequence of PIU with MMOGs. Online gaming can become an emotionally draining and time-consuming activity (Young, 2004). The conversation with participants revealed that most participants experienced rage or aggression associated with losing or not achieving reward incentives in MMOGs. Two of the participants identified that they would express their rage or aggression by damaging material objects. One participant identified expressing his anger by swearing at other people.

*5.5.5.1.3 Substance abuse.* The findings of the present study suggest that abuse of marijuana was experienced by four of the participants, with one participant experiencing an increased use of cigarettes concurrently with extensive playing of MMOGs. In their own words, participants describe this aspect of their experience:

*Also, I like to smoke weed when I play, it adds a different dimension to it. It makes you focus more and makes the game more intense.*

*Yes (to question do you smoke weed more often while playing MMOGs), because weed keeps me awake and I can't shut down.*

*I smoke cigarettes and marijuana. It definitely makes me smoke more cigarettes...*

*It makes me enjoy the game more and I enjoy being high more when I play the games, it complements each other. I can't remember the last time I didn't smoke marijuana when I played.*

*I have always smoked pot. If anything, I might smoke more of it when I game. I like to be kept on that level while I am playing...*

The researcher did not identify literature highlighting the co-morbidity of PIU with MMOGs and substance abuse. More specifically, the literature did not explore abuse of marijuana related to PIU with MMOGs. The findings of the present study highlight the



relationship between excessive gaming and abuse of marijuana. However, the researcher questions whether PIU with MMOGs resulted from the individual's prior use of marijuana or whether the abuse of marijuana was a consequence of PIU with MMOGs?

**5.5.5.2 Others.** As a result of PIU with MMOGs experienced by the participants, consequences were noted affecting significant others in the participants' lives. Generally, participants expressed the degree to which they experienced relational strain related to their massively multiplayer online gaming behaviour.

**5.5.5.2.1 Relationship strain.** Participants highlighted the impact that extensive playing MMOGs had upon the significant relationships in their lives. According to Griffiths and colleagues (2004) the majority of online gamers indicate that an essential requisite to maintain their status in the game is to sacrifice core aspects of their lives. Many online gamers become so absorbed in the game that they withdraw from family and friends (Wu et al., 2013; Zhong & Yao, 2013). In the present study participants shared the degree to which they experienced the impact of excessive massively multiplayer online gaming behaviour upon their personal relationships:

*Yes. Relationship-wise it has not helped me very much. It is the fact that I spend more time on the gaming than on the actual relationship.*

*I did start rejecting my friends here in favour of logging on.*

*We also realised that your social relationships do suffer. For example, my brother would visit and I wouldn't even realise it, an hour or two later I would perhaps go to the bathroom and see he is in the house.*

*Honestly, I think some of the negative effects would be the relationships around me that suffer, for instance my brother would visit with his wife and they have stopped trying to get my attention because the problem with online games is that you can't pause the game. Not only with my family members, I would even*

*say my pets, like you don't see them all day and then when I would switch on my computer, they would see and just walk away because they know I am not going to pay attention to them.*

*I would play all day and night. My girlfriend would moan and go to bed, but I would just keep playing.*

All the participants described a significant impact in their personal relationships due to their massively multiplayer online gaming behaviour. The conversation with participants revealed that participants would spend an extensive amount of time gaming and ignore their family, relationships, pets, and friends. It was interesting to note that most of the participants did not speak about being concerned by the fact that they were isolating themselves from other individuals in order to play MMOGs. Furthermore, it appeared that the amount of time spent playing MMOGs had an important impact on the participants' significant relationships with others because they would spend hours playing online instead of engaging with significant others.

**5.5.6 Summary of theme.** The participants experienced that MMOGs had impacted upon many aspects of their lives. Participants described consequences in relation to their personal health, emotional regulation as well as substance abuse. From the theme of personal health emerged consequences specifically related to sleep deprivation and a lack of physical activity. A second theme that emerged in relation to the self was participants' experience of a change in their mood state, specifically in terms of experiencing rage or aggression associated with losing or not achieving reward incentives in MMOGs. The third theme that emerged in relation to participants themselves was the theme of substance abuse. Participants specifically experienced the abuse of marijuana while playing MMOGs as it intensified their experience of the game.

Finally, the participants experienced relational strain due to the extensive amount of time spent playing MMOGs.

**Table 6: Perceptions of problematic Internet use with massively multiplayer online games.**

Main area	Category	Theme	Sub-theme
Perception of PIU with MMOGs	Features of addiction	Preoccupation Withdrawal Unsuccessful efforts to cut back Escape	

**5.5.7 Perceptions of problematic Internet use with massively multiplayer online games.** The researcher explored with the participants their perceptions of their own PIU with MMOGs. The findings of the present study identified the theme of addiction. The aspects of addiction identified by the participants themselves included, preoccupation, withdrawal, unsuccessful efforts to cut back, and escape.

**5.5.7.1 Addiction.** Near the end of the conversation with the participants the question was asked: Do you feel that you are addicted to massively multiplayer online gaming? Drawn from the subjective experience of the participants, four out of the seven participants felt that they were addicted to massively multiplayer online gaming. In their own words, participants describe their responses:

*No. I know what an addiction feels like and this doesn't feel like an addiction. For me an addiction, speaking from experience, was something I needed and had to have 24/7.*

*I think I am. I don't know, it is like an escape from daily life.*

*In my opinion, because games are structured in such a way that make people addicted to them. They present us with little tasks to do which we call grinding, you grind away at something and get something in return. I have an addictive personality anyway most people have their poison. It creates an urge to want to keep getting that little prick of dopamine from completing tasks.*

*Yes. If I do go without gaming I get aggressive. Take a smoker for instance, if he doesn't have a cigarette then he is uptight, anxious, irritated and that is the same as I am when it comes to gaming.*

*Yes, but addicted in the sense that I enjoy it and if I get an opportunity to play games I will.*

In the present study, the researcher noted the category of addiction among participants. From this finding, the researcher is of the opinion that PIU with MMOGs can be considered a diagnosable form of behavioural addiction. It is noteworthy to highlight that each participant's experience of the massively multiplayer online gaming behaviour was unique to each individual and therefore the extent of each feature of addiction experienced by each individual would be experienced on a continuum. The features of addiction experienced by the majority of participants were identified as themes. In relation to the DSM-5 (APA, 2013) criteria these themes were identified as preoccupation, withdrawal, unsuccessful efforts to cut back, and escape. Although other features of addiction, such as tolerance and loss of interest in previous activities, were experienced by certain participants, no prominent themes emerged regarding these features.

*5.5.7.1.1 Preoccupation.* As with other addictive behaviours, the vast majority of those individuals who eventually experience PIU with MMOGs do not develop an

addiction after their initial online gaming experience. The PIU with MMOGs is a behaviour that occurs on a continuum, from no gaming at all to increasing amounts of participation in massively multiplayer online gaming activities. In light of this, participants described the experience as follows:

*Recently more often as I have started to get back into online gaming but mostly maybe 4 to 6 hours during the week. Weekends I would spend all my free time gaming.*

*I get home from work at 7pm and by 7:30 pm I will be playing, until, maybe about 2 am. On weekends, I do play a lot, I play a few games during the day and I gun it at night, playing one game after the other.*

*But you will just look forward to that moment when you can log in...and you can start playing.*

*The game has been created in one way but you can download and modify your game so that there is extra graphics and that in the end also becomes an addiction, where you can spend so much time just fiddling with the game that you absolutely forget about everything that goes on around you.*

According to the DSM-5 proposed criteria for IGD (APA, 2013), individuals who experience pathological online gaming experience a preoccupation with the activity of online gaming. The literature highlights that the experience of preoccupation can be identified when the individual is often preoccupied with thoughts about gaming, with playing itself and when one has strong feelings of wanting to play (craving) (Ko et al., 2007). In the present study, it was found that the majority of participants spent from 4 to 6 hours gaming online. Furthermore, four of the seven participants described spending all weekend playing MMOGs. Three participants revealed experiencing thoughts about gaming which suggests that the participants experienced a preoccupation with the chosen

gaming activity. One of the participants reported: *I will plan to go home for an hour and have 45 minutes where I can play during work.* This statement highlights the participant's preoccupation with online games even while engaging in another activity.

5.5.7.1.2 *Withdrawal.* The second theme identified as a feature of addiction among the participants was withdrawal. According to Ko et al. (2007) problematic gamers may feel a strong discomfort both emotionally and physically (that is, withdrawal symptoms) when doing other non-gaming activities, which is resolved by returning to game playing. The participants accounted for their experience of withdrawal in the following manner:

*And I sold my Xbox. I started having withdrawals like I kept thinking about wanting to game again and felt that I needed the competitiveness to push myself to become better against other people.*

*Also, with playing World of Warcraft I would especially have some feelings of guilt because it envelops everything that you do.*

*When I went a week without gaming, I was very edgy and very aggressive and one day when I played games I was relaxed and relieved, then I was fine.*

Three out of the seven participants expressed experiencing negative emotions when put into a situation where they could not play MMOGs. The DSM-5 (APA, 2013) proposed criteria for IGD describes typical withdrawal symptoms as irritability, anxiety, and sadness. Through conversations with the participants, the present researcher found that one participant experienced withdrawal symptoms of irritability and aggression, another related to cognitive withdrawal, and one participant described experiencing guilty feelings when he was not able to play MMOGs.

5.5.7.1.3 *Unsuccessful efforts to cut back.* Related to the experience of withdrawal, the third theme identified as a feature of addiction by participants was unsuccessful

efforts to cut back or control gaming behaviour. Brown and Griffiths (1991) developed the biopsychosocial components model of addiction and refer to the element of unsuccessful efforts to cut back as relapse. Griffiths (1991) highlights in the components model of addiction that individuals who experience PIU with MMOGs may be unable to remain abstinent or to moderate their addictive behaviour. The participants describe their experience of this feature of addiction:

*I remember being in a relationship with someone and giving up gaming which led to me not being happy about it. It is a part that I cut off of myself and I gave up gaming for a long time but inevitably I found a seat back into it (started playing again).*

*I wouldn't say that there is a time that I have abstained from games except for once when I was in a relationship. It was an issue at that stage so I tried to stop playing, for about eight months, but I was really pissed off during that time and then I started creeping back into gaming.*

Several of the participants experienced unsuccessful efforts to cut back on their gaming behaviour (relapse). It is noteworthy to point out that most participants who experienced withdrawal also experienced relapse. After some time without playing MMOGs, most participants ended up playing again.

**5.5.7.1.4 Escape.** The DSM-5 (APA,2013) refers to the proposed criteria of escape for IGD. This criterion can be described as the use of internet games as a way of escaping from problems or of relieving a dysphoric mood (for example, feelings of helplessness, guilt, anxiety, depression). One participant's account of his experience of escape from playing MMOGs accurately encompasses this feature:

*It helps me get a lot of rage out. Yes, it is like an escape. When there are bad things going down or when your mind is full of whatever is happening in your life, gaming is like an escape.*

It is noteworthy to identify that the feature of escape in the proposed criteria for IGD also presented itself earlier as a motive for playing MMOGs. The researcher is of the opinion that participants engage in MMOGs as a form of escape which later becomes a contributory causal factor to their PIU with MMOGs. The findings of the present study concur with the literature which indicates that when gaming becomes a standard way to resolve or avoid any type of dysphoric state, it tends to become problematic (Caplan, 2003; Davis, 2001).

**5.5.8 Summary of theme.** Although all participants met the DSM-5 (APA, 2013) proposed criteria for IGD, only four of the seven participants experienced their massively multiplayer online gaming behaviour as an addiction. The DSM-5 (APA, 2013) proposed criteria for IGD as experienced by participants included preoccupation, withdrawal, unsuccessful efforts to cut back, and escape. No other prominent themes emerged regarding the other proposed criteria related to IGD such as tolerance, and loss of interest in previous activities.

**Table 7: Treatment**

Main area	Category	Theme	Sub-theme
Treatment	Disregard for treatment		



### 5.5.9 Treatment

**5.5.9.1 Disregard for treatment.** PIU with MMOGs is still relatively new and mental health clinicians may overlook signs of addiction (Young, 2009). From conversations with the participants, no themes emerged regarding seeking help or treatment approaches. All the participants reported that they had not sought treatment because they felt that it was not necessary. Furthermore, the participants were not aware of any treatment programmes related to PIU with MMOGs. All participants met the proposed DSM-5 criteria for IGD which means that, if classified as a DSM-5 diagnosis, all participants would have been diagnosed with IGD.

Young (2004) describes abuse as being considered a milder form of addiction that can also preoccupy and create problems for the user, but the user has more control over the behaviour and is better able to set limits and regulate use. The researcher suggests that although all the participants had been negatively affected by their PIU with MMOGs, their gaming behaviour appears to be functional in that they are still able to a large degree to continue with the activities of daily living. The researcher questions whether the participants are experiencing what Young (2004) classifies as abuse of MMOGs? Furthermore, the researcher questions whether PIU with MMOGs can be diagnosed as a disorder or whether the behaviour should be identified on a continuum related to the individual's ability to continue to function in society? If IGD is classified as a disorder then should there not be a diagnosis for the many other forms of Internet addiction such as Facebook, emailing, Twitter, and Instagram? Or could the many forms of Internet addiction including Internet gaming be considered specifiers for a diagnosis of Internet addiction? Finally, if all potentially addictive behaviours are diagnosed, would the DSM-5 not become extensively oversaturated?

It is important to note that IGD has only recently been proposed as a possible diagnosis in the DSM-5 and therefore there is a scarcity of research on treatment, intervention, and prognosis for PIU, more specifically PIU with MMOGs (APA, 2013). There has been no identification of treatment programmes researched within a South African context.

Shaw and Black (2008) highlight in the literature that socioeconomic mechanisms have been proposed to recognise the fact that PIU occurs wherever computer usage is available. It would appear unlikely that PIU can occur in poorly developed countries where the availability of computers and Internet access are limited, except perhaps among those in the academic, business or government circles, or among the elite (Shaw & Black, 2008). The researcher is of the opinion that the extent of addiction experienced with MMOGs in South Africa has not yet reached the level experienced in the Asian countries. One participant further emphasises this by stating: *as a country, I don't think South Africa as a country is ready to look at online gaming as a legitimate form of addiction.*

**5.5.10 Summary of theme.** The participants expressed a disregard for seeking treatment for their massively multiplayer online gaming behaviour. The participants perceived that although there were negative consequences of their PIU with MMOGs, they were still able to continue functioning within society. Furthermore, participants were not aware of any treatment programmes for their PIU with MMOGs within their community or within South Africa.

## **5.6 Summary of findings.**

The findings of the present study have been presented according to the key categories and themes that emerged through the conversations with participants. The

findings illustrate the participants' experience of MMOGs. Participants experience excitement while engaging in MMOGs of choice. There was a general consensus among participants about the preference of online role-playing games as the MMOG of choice, specifically the role-playing game, World of Warcraft. This experience of initial excitement related to the aspect of being able to compete online against other individuals rather than a computer.

The discussion of the findings emphasise the need to play MMOGs to experience excitement (sensation-seeking) while simultaneously escaping life stressors and negative emotion. The sensation-seeking motive for participants related to the appeal of achieving rewards in the MMOG. Furthermore, social engagement related to online relationships and online social support also emerged as key motives for playing MMOGs. Both online relationships and online social support appeared to provide the participants with a sense of belonging and identity. Other motives for the continued use of MMOGs identified by the participants were enjoyment, the aspect of winning, virtual reality, online identity, and skill development.

Participants found that massively multiplayer online gaming has an impact on many aspects of their lives. An impact on the participants themselves included health, emotional dysregulation and substance abuse. Relational strain emerged as a prominent theme related to the impact of massively multiplayer online gaming on the participant's relationship with others. The following quote drawn from a conversation with one participant describes the profundity of the affect that playing MMOGs had on his relationships: *Yes. I definitely ignore phone calls, don't open the door, don't reply to people if I am playing and just cut myself off from the world.*

Four out of the seven participants identified their massively multiplayer online gaming behaviour as an addiction. The most prominent DSM-5 (APA, 2013) proposed

criteria for IGD experience by participants were preoccupation, withdrawal, unsuccessful efforts to cut back and escape. Although other features of addiction, such as tolerance and loss of interest in previous activities, were experienced by certain participants, no themes emerged regarding these features. By experiencing these features of addiction due to playing MMOGs opens the door to the possibility that the participants may be spending less time and effort in the world beyond MMOGs.

Finally, participants expressed a disregard for seeking treatment for their massively multiplayer online gaming behaviour. The participants expressed that their experience of addiction to MMOGs was functional and treatment was not necessary. Furthermore, participants were not aware of any treatment programmes for their PIU with MMOGs within their community or within South Africa.

### **5.7 Conclusion**

Griffiths (2002) reports that addiction is a multifaceted behaviour that is strongly influenced by contextual factors that cannot be encompassed by any single theoretical perspective. This is evident from the participants of the present study particularly in the context of understanding each individual's behavioural addiction in relation to their personal history.

This chapter presented a unified structural and textural description of the participants' experience of PIU with MMOGs. The content gathered from the participants has been compared and contrasted with literature on the phenomenon of PIU with MMOGs. It is evident that although the participants experience their gaming behaviour as functional, they also experience it as an addiction. The findings of the study illustrates a connectedness between the personal experience, consequences, and impact that playing MMOGs has upon the participants and the significant aspects of their lives.

In the following and final chapter, a summary concludes the present study, acknowledging limitations and recommendations for future research.

## Chapter 6

### Conclusion

*“Life is the art of drawing sufficient conclusions from insufficient premises”*

*(Samuel Butler, unknown)*

#### 6.1 Introduction

Chapter six provides a summary of the procedures and processes of the present study. The chapter further provides a discussion regarding the strengths and limitations of the present study. The strengths highlight the positive aspects attributed to the present study, whereas the limitations highlight the challenges and possible drawbacks of the study. General considerations are thereafter discussed. Problematic Internet use (PIU), more specifically with massively multiplayer online gaming, is a proposed disorder that has recently sparked much debate and the literature encompassing this phenomenon is developing. As such, terminology, treatment and other factors play a role in the understanding of PIU with massively multiplayer online games (MMOGs). It is important to be mindful of such factors that may influence the manner in which the findings are viewed. It is for this reason that the information is presented tentatively as clarity is needed to create a definite picture of the disorder.

Recommendations will be highlighted for future research on PIU with MMOGs, particularly with reference to qualitative research of this nature. Finally, the study draws to a close with the personal reflections of the present researcher. The present researcher found it valuable to include personal reflections that arose throughout the experience of conducting this research study.

## 6.2 Summary of methodology

The present study aimed to enhance a greater understanding of the phenomenon of PIU with MMOGs among male adults, drawn from the experiences of the individuals that have encountered this type of maladaptive behaviour. In doing so, common themes emerged with regard to the lived experiences of the participants. Research into this phenomenon is necessary to help society comprehend the dynamic nature of PIU with MMOGs and to provide assistance in developing mechanisms in order to prevent and manage its occurrence. Research of such magnitude can however not be conducted without a prior understanding of the phenomenon that is under investigation. This study aimed to highlight the psychological facets of PIU with MMOGs among male adults that can be used to aid in the management and prevention of the behaviour.

A transcendental phenomenological approach was utilised to actualise the researcher's goal of understanding and reflecting upon the phenomenon as it is experienced by the individual participants. This approach emphasised the role of subjectivity and discovery of the meaning of experience by focusing on the lived experience of PIU with MMOGs among male adults without imposing empirical statements or presupposed ideas. In phenomenological research, no final or definite conclusions can be made. The research "can never exhaust the investigated phenomenon... (and) can never be complete" (Colaizzi, quoted by Stones, 1988, p. 155). The search for understanding the relationship between the individual's conscious awareness of what exists and what exists in reality remains a continuous process. All conclusions arrived at are tentative and subjective reflections and not the aim of the investigation, but merely part of the process.

Phenomenological research emphasises the present inner world of the individual, which includes experience and perception along the path of discovery. Emphasis is

placed on subjectivity and uncovering the essences of experience. Understanding and insight into this awareness can thus be used to augment strategies in the prevention and treatment of pathological online gaming.

A theoretical sample was utilised where participants were selected based on their knowledge and experience with regards to the phenomenon of PIU with MMOGs. Following this, face-to-face, semi-structured interviews were conducted with each participant. The interviews were transcribed verbatim (see Appendix F for confidentiality agreement) and these interviews provided first person descriptions of the lived experiences of PIU with MMOGs among male adults. The data analysis was conducted simultaneously by the researcher as well as an independent coder (see Appendix G for confidentiality agreement). The researcher analysed the data using Braun and Clarke's (2006) thematic analysis method. Following this, participants were contacted and a face-to-face session was conducted to verify the findings of the data analysis. This process provided participants with the opportunity to reflect on their own involvement in the study.

The approach and methodology allowed the researcher to implement the four phenomenological processes of epoche, phenomenological reduction, imaginative variation, and synthesis of meaning. Furthermore, the research process incorporated Lincoln and Guba's (1985) four principles of trustworthiness, namely credibility, transferability, dependability, and confirmability. Thereafter, the researcher presented the findings of the research conducted. Upon completion of the present study, each participant received a summary of the research process and its outcomes.



### 6.3 Summary of findings

The findings of this study have been presented according to the key categories and themes that have emerged through the conversation with participants. The findings illustrate the participants' experiences of MMOGs. Participants experience excitement while engaging in the MMOGs of choice. There was a general consensus among participants about the preference of online role-playing games as the MMOG of choice, specifically the role-playing game World of Warcraft. This experience of excitement related to the aspect of being able to compete online against other individuals rather than a computer.

Participants experienced different motives for the continued use of MMOGs. The researcher found that there was more than one theme that emerged regarding the attraction to the online gaming environment. In fact, different findings were identified as some participants enjoyed the strategy aspect of the environment, whereas other participants enjoyed the social and interactive features of online gaming. The most significant motives that emerged were sensation-seeking, online relationships, and the social support motive. Other motives identified by the participants were enjoyment, the aspect of winning, virtual reality, online identity, and skill development.

Participants found that massively multiplayer online gaming has an impact on many aspects of their lives. Consequences for participants were experienced in relation to their personal health, emotion regulation, as well as substance abuse. Relational strain emerged as a prominent theme related to the impact of massively multiplayer online gaming on the participant's relationship with others.

Four out of the seven participants identified their massively multiplayer online gaming behaviour as an addiction. The most prominent Diagnostic and Statistical Manual of Mental Disorders (5th ed.; DSM-5; American Psychiatric Association [APA], 2013)

proposed criteria for the Internet gaming disorder (IGD) experience by participants included preoccupation, withdrawal, unsuccessful efforts to cut back and escapism. Although other features of addiction, such as tolerance and loss of interest in previous activities, were experienced by certain participants, these were not identified as prominent themes within the present study.

Finally, participants expressed a disregard for seeking treatment for their massively multiplayer online gaming behaviour. The participants expressed that their experience of addiction to MMOGs was functional and treatment was not necessary. Furthermore, participants were not aware of any treatment programmes for their PIU with MMOGs within their community or within South Africa.

### **6.4 Strengths of the present study**

Several strengths can be identified within the present study. The first strength was seen within the integration of the transcendental phenomenological approach which provided an adequate framework for PIU with MMOGs to be explored. From the qualitative perspective, to call a research activity qualitative broadly means that it aims at understanding the meaning of human action. Thus, the qualitative research method allowed for the necessary fluidity for the meaning and essence of the participants' experience of PIU with MMOGs to emerge.

The use of theoretical sampling proved valuable as the participants selected for the study had sufficient knowledge and experience to provide descriptive accounts of their PIU with MMOGs. The sampling strategy viewed the participants as the experts in the field under study. Participants were all relevant candidates for the phenomenon under study, as all could be diagnosed with the proposed diagnosis of IGD according to the criteria stipulated in the DMS-5 (APA, 2013).

Furthermore, the format and setting selected to conduct the interviews provided a private and confidential space that facilitated the participants' ability to freely express themselves with a high degree of comfort. The audio-taping and transcription of the conversations facilitated the phenomenological research process most appropriately. It provided the ideal opportunity to contemplate and reflect on the content and thus develop a deeper understanding of the lived experiences of PIU with MMOGs among male adults.

It was also found that with the guidance of semi-structured interviews, information relating to the personal history of participants emerged. This allowed for a deeper understanding of the phenomenon as a whole without losing the experience of the participants. Each participant was given the opportunity to describe their experience fully, giving first-person reports of their massively multiplayer online gaming experience. Semi-structured interviews were utilised and organised around the areas of particular interest, allowing considerable flexibility in scope and depth. This flexibility can be seen as a strength in the present study as it allows the participants to include and discuss other issues that may be used to expand their experience of PIU with MMOGs.

The simultaneous data analysis by the researcher and an independent coder proved valuable in ensuring the credibility of the study's findings. Furthermore, the process also provided an opportunity for the present researcher to critically engage with an individual with a detached perspective. Through such discussions, the researcher was able to delve past the apparent meanings in the interviews thus facilitating a holistic understanding of the lived experiences of the participants.

One of the most appealing features in the present study is the space for acknowledgement and recognition of the human experience, linked to the exploration of psychological meaning. Problematic internet use (PIU) with online games is a complex phenomenon that manifests as a result of the interaction of many influences. The

phenomenological approach facilitates the acceptance of the participant as the most valuable source of knowledge in the development of meaning and understanding without judgement.

Finally, the present study was conducted within a South African context. Research regarding Internet addiction, more specifically PIU with MMOGs, within a South African context is lacking. The present study provides further insight into the phenomenon from a South African perspective which adds to the current body of knowledge.

### **6.5 Limitations of the present study**

While there were a number of aspects of this research that can be regarded as strengths of the present study, there are some aspects of the research that have been identified as limitations. The first limitation is related to the demographics of the research participants. The study was conducted in Port Elizabeth in the Eastern Cape. Seven participants were identified. According to the inclusion criteria the participants had to be male adults who were fluent in the English language. Through the sampling method used the participants that were identified were white and between the ages of 19 and 40 years. Consequently, there is a possibility that the sample of participants in the study did not accurately represent the total population of PIU with MMOGs in the area.

Whilst the purpose of qualitative research is not concerned with generalising the findings obtained, the perceptions, experiences and views of participants from different South African populations, socio-economic and language groups were not accessed in this study. This may have some implications regarding the transferability of these findings to other populations.

The participants' lack of degree of insight, acceptance and awareness determines the boundaries or limits of the findings. The researcher experienced a level of frustration regarding the participants' insight into their massively multiplayer online gaming behaviour. The participants' answers were brief and even when probed they found it difficult to provide further insight because they had never thought extensively about their massively multiplayer online gaming behaviour. Thus, the limitation lies in the context of each participant acknowledging and having their own degree of insight. This perhaps created a variety of responses within each theme identified in the present study.

### **6.6 General considerations**

There are several considerations that should be taken into account when exploring the phenomenon of PIU with MMOGs. Firstly, there is ambiguity regarding the exact terminology to define PIU with MMOGs which has created a great deal of confusion in the field. Typically, this is understood as a persistent inability to control excessive gaming habits despite significant harm to the individual and significant others (Brunborg et al., 2013). Furthermore, there is considerable debate over the nature and cause of PIU with MMOGs. A unified definition of what constitutes PIU with MMOGs appears to be lacking, therefore many terms have been utilised by different authors. For the purpose of the present study terms such as PIU and pathological have been used interchangeably.

Secondly, the diagnostic position of IGD in the DSM-5 (APA, 2013) should also be considered. The proposed diagnosis of IGD in the DSM-5 is considered as a diagnosis that requires further exploration in future studies. There is much debate among researchers about whether to classify Internet addiction as a psychiatric disorder in its own right (Shaw & Black, 2008). Therefore, it is important to note that IGD has not yet

been classified as a diagnosis, which may need to be taken into account when exploring and understanding the diagnosis, clinical picture and treatment of the addiction.

As mentioned previously, IGD has not officially been classified as a diagnosis in the DSM-5 (APA, 2013). For this reason, further research is required to identify both differential diagnosis and co-morbidities related to the disorder. Furthermore, excessive use of the Internet not involving playing MMOGs is not yet considered analogous to IGD (APA, 2013). It is unknown how differential and co-occurring conditions and traits are associated with one another, with the onset and maintenance of IGD and with the severity of disordered online gaming behaviour. Therefore, for the purpose of the present study, each individual participant was regarded as a unique entity who could shed light on their experience of the phenomenon. As such, possible differential diagnoses and co-morbid disorders were discussed as they emerged through the themes of the study, yet did not deter from the goal of the present study.

In the last decade, Internet addiction has grown in terms of its acceptance as a clinical disorder that requires treatment (Young, 2007). However, it is important to note that IGD has only recently been proposed as a possible diagnosis in the DSM-5 and therefore there is a scarcity of research on treatment, intervention and prognosis for PIU, more specifically PIU with MMOGs (APA, 2013). There has been no identification of treatment programmes researched within a South African context. For the purpose of the present study the treatment of PIU with MMOGs was only briefly discussed. The present study rather focused on the emergence of this form of technology as an addiction.

There is considerable debate about the usefulness of the different psychometric measures of PIU with MMOGs because different researchers have used different psychometric measures. Hence, research investigating problematic massively multiplayer online gaming behaviour is vast and diverse with different perspectives on massively

multiplayer online gaming as a form of Internet addiction. To date, there is currently no universal theoretical model to guide understanding and thinking about massively multiplayer online gaming behaviour (Griffiths, 2002). Furthermore, it is difficult to decipher an accurate clinical picture of the disorder because different psychometric measures have varying criteria, varying questionnaires and thresholds employed (Ko, Yen, Chen, Chen & Yen, 2005). The present study acknowledged and utilised the DSM-5 (APA, 2013) proposed diagnostic criteria for IGD as the inclusion criteria (see Appendix A).

The lack of consensus regarding the terminology, the evolving diagnostic criteria, different psychometric measures used to assess PIU with MMOGs, as well as co-morbid and treatment considerations give rise to the notion that research in the area of PIU with MMOGs needs to be further explored.

### **6.7 Recommendations**

To the best of the researcher's knowledge, research conducted within a South African context focusing on the experience and meaning ascribed to PIU with MMOGs among male adults is lacking. In light of this, the overall broad goal was to obtain exploratory data from which further studies could be conducted.

From the present study emerged the psychological facets of PIU with MMOGs, or the psychological addiction to PIU with MMOGs. The participants provided descriptions of the perceived psychological functions of massively multiplayer online gaming as well as significant psychological experiences while playing MMOGs. These are not accounted for in the conceptualisation of IGD in the DSM-5 (APA, 2013). This insight into the psychological addiction to MMOGs highlights a more fundamental intrapersonal experience among males of PIU with MMOGs. This deviates from the behavioural

characteristics used to conceptualise the proposed disorder. Thus, the findings of this study emphasise the necessity to incorporate such psychological experiences into the understanding of PIU with MMOGs.

Despite building rapport, the researcher experienced a level of frustration regarding the participants' insight into their massively multiplayer online gaming behaviour. The researcher found that the participants' answers were brief and even when probed they found it difficult to provide further insight, possibly because they had never thought extensively about their massively multiplayer online gaming behaviour. The researcher is of the opinion that the nature of the participants may be reflective of personality factors related to the types of individuals that spend excessive amounts of time playing MMOGs. Furthermore, the researcher found that the literature into personality and online gaming was lacking. Thus, further investigation into personality (for example, personality testing) and online gaming would be a recommendation for future studies.

Another important finding of the study relates to the participant's perception of his massively multiplayer online gaming behaviour and the ability to maintain an adequate level of functioning. The participants expressed an adequate level of functioning despite their continued PIU with MMOGs. This suggests that individuals addicted to massively multiplayer online gaming can remain functional for an extended period of time without treatment or hospitalisation. The implication of this is that it may impact upon the strategies for future treatment programmes as well as the individual's ability to maintain abstinence. Therefore, investigation into the dynamic relationship between the use of MMOGs and the element of addiction would be strongly recommended for future studies.

It is valuable to understand how PIU with MMOGs influences and impacts on the lives of people in South Africa, especially when considering that there is a proposed



diagnosis of IGD. It is recommended that a study of a larger scale, taking into account different races, genders, cultural backgrounds and treatment needs of the participants be considered. Further research would create a greater understanding of the phenomenon as it is related to a South African context.

It is further recommended that additional research about the phenomenon of PIU with MMOGs could be conducted in a range of contexts and areas, such as within the provinces of South Africa. This is particularly important in a country such as South Africa with its rich cultural diversity. This could further contribute to the development of contextually appropriate intervention and awareness programmes for pathological massively multiplayer online gaming behaviour.

### **6.8 Personal reflection**

I remember clearly the beginning of this research process because my research supervisor, Professor Howcroft, gave me a quote that highlights the significance of the research process. This quote by Marquez (1983) remained with me throughout the research process and inspired me with the following words:

“I don’t see inspiration as a state of grace nor as a breath from heaven, but as the moment when by tenacity and control, you are at one with your theme...you spur the theme on and the theme spurs you on too...all obstacles fade away, all conflict disappears, things you never dreamt of occur to you and, at that moment, there is absolutely nothing in the world better than writing”.

The more time I spent conducting my research the more I realised the significance of these words provided by Marquez (1983). The words became meaningful and provided me with a sense of commitment to not only complete my research journey but also treat it with respect. I remember facing many obstacles along my research journey,

ultimately, the words have provided me with the motivation that assisted me in reaching this point.

The stage of concluding my research treatise has given me the opportunity to reflect on the great deal that I have learned throughout the research process. In all honesty, I have fully enjoyed studying psychology throughout the years, however, the aspect of research has never being my favourite part of the process. I struggled profoundly to remain motivated throughout the research process. I found that the more time I spent exploring the phenomenon of PIU with MMOGs the more I started to enjoy the research. I found studying the elements of online behaviour fascinating and completely relevant to the technology of our time.

I also found it beneficial that I had no previous insight into my topic of research and as a result this did not create previous biases or assumptions. Furthermore, my findings became enlightening because I constantly remained open to all possibilities of meaning that could be expressed by the participants.

The most challenging aspect of being a researcher is ensuring that you remain true to the initial goals put forth in the research proposal. I found that the more I discovered about PIU with MMOGs, the more I wanted to discover about every aspect of the phenomenon. Yet, I continued to remind myself that I was merely a guide in the journey of the participants and they would lead me to the findings relevant to their story.

Finally, I conclude my reflection by highlighting my enjoyment for working with people. My favourite part of the research was listening to the unfolding stories of the participants, and presenting them with the utmost respect. I do hope that the time and effort put into this treatise reflects the importance not only of the participants, but of my own phenomenological journey with the phenomenon of PIU with MMOGs.

## **6.9 Conclusion**

The exploration into the lived experiences of PIU with MMOGs among male adults through this study has highlighted the relevance and necessity of such research. The transcendental phenomenological approach and methodology of the study have proven to be beneficial in developing insight into the psychological experiences of PIU with MMOGs among males and how this knowledge can be used to supplement understanding of the dynamics of pathological online gaming behaviour.

The present study provided a description of the essence of the phenomenon and a deeper understanding of the individuals' lived experiences of PIU with MMOGs. Considering that research encompassing the internet and IGD is relatively new in South Africa, there is plenty of opportunity for further exploration in the field. Thus, the findings of this study may be utilised in the development and implementation of various strategies to address or circumvent any possible difficulties that South Africans might encounter as a result of PIU with MMOGs.

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APPENDIX A

**DSM-5 Proposed Diagnostic Criteria: Internet Gaming Disorder**

Persistent and recurrent use of Internet to engage in games, often with other players, leading to clinically significant impairment or distress, as indicated by the individual exhibiting five (or more) of the following within a 12-month period:

(1) Is preoccupied with Internet games (e.g., the individual thinks about previous gaming activity or anticipates playing the next game; Internet gaming becomes the dominant activity in daily life)

(2) Withdrawal symptoms when Internet gaming is taken away (these symptoms are typically described as irritability, anxiety, sadness, but not physical signs of pharmacological withdrawal)

(3) Tolerance, the need to spend increasing amounts of time engaged in Internet games.

(4) Has repeated unsuccessful efforts to control the participation in Internet games.

(5) Loss of interest in hobbies and entertainment as a result of Internet games.

(6) Use of Internet games as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)

(7) Lies to family members, therapist or others to conceal the extent of involvement with Internet games.

(9) Has jeopardised or lost a significant relationship, job, or educational or career opportunity because of Internet games.

APPENDIX B

**Biographical Questionnaire**

Section A:

1. First Language:
2. Gender:
3. Age:
4. Do you play massively multiplayer online games:

Section B:

This section is filled out by the interviewer. The interviewer will state the following before asking the questions: “I am going to ask you a few questions, please answer as honestly as possible”:

5. Have you been preoccupied with massively multiplayer online gaming within the last 12 months?
  - a. Yes\_\_\_\_\_/No\_\_\_\_\_
6. Do you game persistently throughout the day, every day?
  - a. Yes\_\_\_\_\_/No\_\_\_\_\_
7. Do you experience symptoms of withdrawal (for example, irritability or frustration) when you are not able to play massively multiplayer online games?
  - a. Yes\_\_\_\_\_/No\_\_\_\_\_
8. Do you have a need to spend increasing amounts of time playing massively multiplayer online games?
  - a. Yes\_\_\_\_\_/No\_\_\_\_\_
9. Have you experienced repeated unsuccessful efforts to stop or cut back on massively multiplayer online gaming?

**PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES**

a. Yes\_\_\_\_\_/No\_\_\_\_\_

10. Have you experienced a loss of interest in previous hobbies as a result of  
massively multiplayer online gaming?

a. Yes\_\_\_\_\_/No\_\_\_\_\_

11. Do you use massively multiplayer online games as a way of escaping from your  
problems or relieving a negative mood?

a. Yes\_\_\_\_\_/No\_\_\_\_\_

12. Do you lie to your family members, therapist, or others to conceal the extent of  
your involvement in massively multiplayer online games?

a. Yes\_\_\_\_\_/No\_\_\_\_\_

13. Have you jeopardized or lost a significant relationship, job, or educational or  
career opportunity because of massively multiplayer online gaming?

a. Yes\_\_\_\_\_/No\_\_\_\_\_

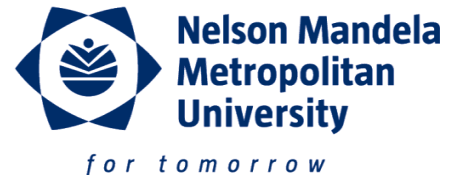
APPENDIX C

**Interview Schedule**

- In your own words, describe your perception of your experiences with massively multiplayer online role-playing games.
- What do you consider positive factors in playing these games?
- Have you ever felt that you spend too much time playing games? Why?
- What attracted you to massively multiplayer online gaming? What do you enjoy most about online gaming?
- Tell me about the negative effects of playing massively multiplayer online games?
- In what ways have you found that massively multiplayer online gaming is addictive? Can you tell me more about this?
- Have you ever sought out treatment for your massively multiplayer online gaming behaviour? Are you aware of any treatment programmes in South Africa?

APPENDIX D

**Letter of Motivation for Co-operation**



Faculty of Health Sciences

Department of Psychology

NMMU (South Campus)

Tel: (041)-5042330

Email: s211085480@nmmu.ac.za

February 2016

Dear Participant

To meet the requirements for an MA degree in Clinical Psychology at the Nelson Mandela University (NMU), it is necessary for me to complete a research treatise. The title of my treatise is: “A Phenomenological Study of Problematic Internet Use with Massively Multiplayer Online Games”.

The aim of the research is to explore and describe this topic to contribute to current strategies in cyber security and education, and increase the body of research knowledge in cyberpsychology in South Africa. The aim of the study is to explore and describe the perceptions of male adults about their problematic Internet use (PIU) with massively multiplayer online gaming behaviour. The researcher is proposing that the data from this study will assist in promoting an understanding of PIU with

MMOGs, assisting in the further development of online addiction diagnosis and treatment strategies.

You are being asked to participate in my research study. You will be provided with the necessary information to assist you to understand the study and explain what would be expected of you as a participant. You will be required to complete and sign a consent form. This consent form verifies that you understand and agree to the conditions of the study.

You will be participating in a voluntary manner and have the right to withdraw your participation from the study at any time. Please note that if you do withdraw from the study it will be beneficial to arrange for a final discussion in order to terminate the research in an ethical manner. You have the right to query concerns regarding the study at any time. Please raise any concerns or questions with the researcher.

Telephone numbers of the researcher are provided. Please feel free to phone or email if you have any questions.

Although your identity and identifying information will remain strictly confidential the findings of the study may be presented at scientific conferences or in research publications.

Yours sincerely,

Stacey-Lee Bopp

(Researcher)

Intern Clinical Psychologist

Email: s211085480@nmmu.ac.za

Professor Greg Howcroft

(Supervisor)

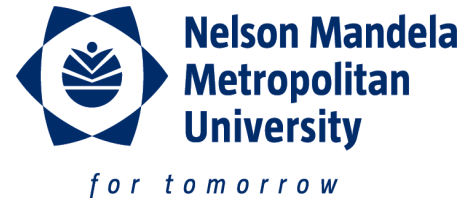
Clinical Psychologist

Email: psychology@nmmu.ac.za



APPENDIX E

Information and Informed Consent Form



**SOUTH CAMPUS**

**FACULTY OF HEALTH SCIENCES / DEPARTMENT OF PSYCHOLOGY**

Tel . +27 (0)41 504-2354 Fax. +27 (0)41 504-2101

psychology@nmmu.ac.za

**NELSON MANDELA METROPOLITAN UNIVERSITY**

INFORMED CONSENT FORM

<b><u>RESEARCHER'S DETAILS</u></b>	
<b>Title of the research project</b>	<b>A Phenomenological Study of Problematic Internet Use with Massively Multiplayer Games</b>
<b>Reference number</b>	<b>H15-HEA-PSY-032</b>
<b>Principal investigator</b>	<b>Stacey-Lee Bopp</b>
<b>Address</b>	<b>Nelson Mandela University, South Campus, Port Elizabeth</b>
<b>Postal Code</b>	<b>6070</b>

<b>Contact telephone number (private numbers not advisable)</b>	<b>041 504 2330 (psychology clinic)</b>
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<b>A. <u>DECLARATION BY OR ON BEHALF OF PARTICIPANT</u></b>		<u>Initial</u>
<b>I, the participant and the undersigned</b>	(full names)	
<b>ID number</b>		
<b><u>OR</u></b>		
<b>I, in my capacity as</b>	(parent or guardian)	
<b>of the participant</b>	(full names)	
<b>ID number</b>		
<b>Address (of participant)</b>		

<b>A.1 I HEREBY CONFIRM AS FOLLOWS:</b>		<b><u>Initial</u></b>
<b>I, the participant, was invited to participate in the above-mentioned research project</b>		
<b>that is being undertaken by</b>	Stacey-Lee Bopp	
<b>From</b>	Psychology Department	

of the Nelson Mandela Metropolitan University.

THE FOLLOWING ASPECTS HAVE BEEN EXPLAINED TO ME, THE PARTICIPANT:			<u>Initial</u>
2.1	<p><b>Aim:</b></p> <p><b>The information will be used to/for:</b></p>	<p>The investigators aim to explore and describe Male Adults' Problematic Internet Use with Massively Multiplayer Online Games</p> <p>A research treatise that will be published as well as a research article that will be submitted to research journals</p>	
2.2	<b>Procedures:</b>	Individuals selected via predetermined criteria, complete a biographical questionnaire, semi-structured interviews, information captured using recorder, and transcribed thereafter.	
2.3	<b>Risks:</b>	<ul style="list-style-type: none"> <li>• Possibility for participants to be overwhelmed by the content provoked by the questions.</li> <li>• Participants could experience negative feelings associated with the discussion of lived experiences</li> </ul>	
2.4	<b>Possible benefits:</b>	Assisting in a research project that may influence or inform future research and education and health policies.	

# PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES

2.5	<b>Confidentiality:</b>	<ul style="list-style-type: none"> <li>Avoidance of harm by keeping the identity of the participant strictly confidential in any discussion, description or scientific publications</li> <li>Use of pseudonyms in the transcription process</li> </ul>			
2.6	<b>Access to findings:</b>	<ul style="list-style-type: none"> <li>Via the researcher (report summary) – to participants.</li> <li>Complete treatise in the NMMU (South Campus Library).</li> </ul>			
2.6	<b>Voluntary participation / refusal / discontinuation:</b>	My participation is voluntary	YES	NO	
		My decision whether or not to participate will in no way affect my present or future care / employment / lifestyle	TRUE	FALSE	

3.	No pressure was exerted on me to consent to participation and I understand that I may withdraw at any stage without penalisation.	
----	---	--

4.	Participation in this study will not result in any additional cost to myself.	
----	---	--

<b>A.2 I HEREBY VOLUNTARILY CONSENT TO PARTICIPATE IN THE ABOVE-MENTIONED PROJECT:</b>	
--	--

**PROBLEMATIC INTERNET USE WITH MASSIVELY MULTIPLAYER ONLINE GAMES**

Signed/confirmed		on		20					
at									
		Full name of witness:							
<b><u>B. STATEMENT BY OR ON BEHALF OF INVESTIGATOR(S)</u></b>									
I, Stacey-Lee Bopp, declare that:									
1.	I have explained the information given in this								
	document to								
	and / or his / her representative								
2	He / she was encouraged and given ample time to ask me any questions;								
3	This conversation was	<b>Afrikaans</b>		<b>English</b>		<b>Xhosa</b>		<b>Other</b>	
	conducted in								
	And no translator was used <u>OR</u> this conversation was translated into								
	(language)		by		(name of translator)				
4	I have detached Section D and handed it to the		<b>YES</b>		<b>NO</b>				
	participant								
Signed/confirmed		o		20					
at		n							
Signature of interviewer		Signature of witness:							
		Full name of witness:							

IMPORTANT MESSAGE TO PATIENT/REPRESENTATIVE OF PARTICIPANT

Dear participant/representative of the participant

Thank you for your/the participant's participation in this study. Should, at any time during the study:

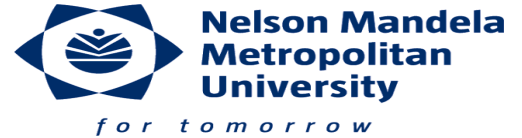
- an emergency arise as a result of the research, or
- you require any further information with regard to the study, or
- the following occur

(indicate any circumstances which should be reported to the investigator)

Kindly contact	Stacey-Lee Bopp
at telephone number	041 504 2330 (psychology clinic)

APPENDIX F

**Confidentiality Agreement-Independent Coder**



Faculty of Health Sciences

Department of Psychology

NMU (South Campus)

Tel: (041)-5042330

Email: s211085480@nmmu.ac.za

**Confidentiality Agreement**

I, the independent coder, understand and agreed that all the information identified throughout the coding process will remain confidential. I am aware that all personal details and information regarding the interview process is confidential and as far as possible any information coded by the independent coder will be kept confidential.

**Name of Independent coder: AG Klopper**

**Signature:**

A handwritten signature in black ink, appearing to read "AG Klopper", on a light-colored background.

**Date: 07 August 2017**

APPENDIX G

**Confidentiality Agreement - Scriber**



Faculty of Health Sciences  
Department of Psychology  
NMU (South Campus)  
Tel: (041)-5042330  
Email: s211085480@nmmu.ac.za

**Confidentiality Agreement**

I, the professional transcriber, understand and agreed that all the information identified throughout the transcription process will remain confidential. I am aware that all personal details and information regarding the interview process is confidential and as far as possible any information transcribed will be kept confidential.

**Name of Professional Transcriber:** Kirsten Muller

**Signature:**

A handwritten signature in black ink, appearing to be "KM", is written over the signature line.

**Date:**

08/08/2017