

DEVELOPMENT OF A RATING SCALE MEASURING INTERPERSONAL
CONTROL AS A MAINTENANCE FACTOR OF ALCOHOL DEPENDENCY

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE
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ABSTRACT

Interpersonal control is a significant factor in the maintenance of alcohol dependency within the dyad relationship. In the treatment of a dysfunctional behaviour, like alcohol dependency, intuitive psychological interventions have been in use. This has generated much criticism. Therefore, research and measurement tools need to be used as a basis for more objective therapeutic interventions. This study was designed to develop a reliable and valid interpersonal control rating measure to address the lack of such an instrument for clinical practices for psychotherapeutic interventions in Namibia. Content analysis of literature was used in development of a preliminary Interpersonal Control Rating Scale. The constructed scale took the format of a global behavioural anchored rating scale. A sample of 21 participants was used for this study: those in intimate relationship and displayed alcohol dependency; those intimate partners who displayed alcohol dependency; and those intimate partners alcohol dependency were not prevalent. The participants were subjected to a non-directive interview. This interview technique elicits the interactional styles displayed by participants. Their interactional styles were evaluated using the Interpersonal Control Rating Scale by four Raters. The findings show that the Interpersonal Control Rating Scale was found reliable with reliability coefficients of .91 for average measures and .71 for single measures. The instrument's validity was also established. The study recommends that the Interpersonal Control Rating Scale can be used as a tool for assessment of dyad relationships in the plan treatment by Clinicians.

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DEDICATION

This thesis is dedicated to my wife, Carina.

DECLARATION

I, Altus Arend van der Merwe, hereby declare that this study is a true reflection of my own research, and that this work, or part thereof, has not been submitted for a degree at any other institution of higher education.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Pathological behaviours, such as alcohol dependent behaviour, are likely to compromise physical, psychological, social and occupational functioning. The World Health Organisation (2004) asserted that alcohol dependency and the consequences thereof is a worldwide problem. According to Kagee (2006), many psychologists rely on a combination of unvalidated therapeutic techniques, their clinical experience and intuition during treatment. He asserted that many psychologists value their clinical experience and intuition more when making clinical or therapeutic decisions as to utilizing empirical data in decision-making.

The measurement of behaviour through statistically reliable and valid instruments addresses this problem directly. There are a vast number of ways to measure constructs associated with human behaviour, such as through ability measures, questionnaires and observation-based assessment tools.

Through psychometric assessment tools that are reliable and valid, the psychologist can measure specific components of human behaviour. This allows the clinician to be more objective in understanding human behaviour. Therefore, the therapeutic processes and intervention strategies are not based solely on the subjective understanding of human behaviour. It is imperative for psychologists to understand pathological behaviour, such as alcohol dependency, objectively, based on empirical data, in order to improve clinical judgement and to assist in therapeutic decision-making.

1.2 Background information

1.2.1 Alcohol Use in Namibia

The World Health Organisation (2004) reported that Namibia has a population of 1,987,000 people, of which 31% are living in urban and 69% in rural areas. Fourty-three percent of the population is younger than 15 years of age. At the time of the research, the average life expectancy of males is 48.1 years and 50.5 years for females.

In terms of the use of alcohol, 24.5% of males and 35.6% of females (63.4% in total) are lifetime abstainers from alcohol (Mustonen, Beukes & Du Preez, 2000) in Namibia. In terms of heavy and hazardous drinkers in Namibia, it has been established that 3.1% of males and 4.9% of females (4.1% in total) fall into this category (males: 40 g pure alcohol/day; females: 20 g pure alcohol/day) (World Health Organisation, 2004).

A total of 6.2% of Namibians can be classified as heavy episodic drinkers, thus consuming at least five standard drinks in one sitting per week. It was established that 9.5% of males and 4.0% of females fall into this category (World Health Organisation, 2004).

In the 1998 national survey of Namibians aged 18 years and older, participants were asked about their experiences of alcohol-related problems over three months and over their lifetime. The questions posed to the participants consisted of questions from the Alcohol Use Disorder Identification Test (AUDIT). This test is used to detect early stages of alcohol dependence (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001).

The following seven questions were asked regarding alcohol-related problems over the three months prior to the survey (Mustonen et al., 2000, p. 49):

- (i) *How often have you experienced a time when you were not able to stop drinking during a single drinking session despite wanting to do so?*
- (ii) *How often have you been unable to do something expected of you because you had too much to drink?*
- (iii) *How often have you needed a first drink in the morning to get yourself going after a heavy drinking session?*
- (iv) *How often have you had a feeling of remorse or guilt after drinking?*
- (v) *How often have you been unable to remember what happened the night before because you had been drinking?*
- (vi) *How often have you skipped a meal because you drank alcohol instead?*
- (vii) *How often have you found it difficult to get the thought of alcohol out of your mind?*

In this survey it was indicated that 75% of male and 60% of female drinkers in Namibia respectively reported that they had experienced at least one of the seven problem areas. Nine percent of male and 5% of female drinkers experienced all seven problems at least once during the last three months (World Health Organisation, 2004). In terms of men and women being married or co-habituating, 2.2% and 2% respectively have indicated that they are currently drinking heavily once or more than once weekly (Mustonen et al., 2000).

According to the Namibian Epidemiology Network on Drug Use, alcohol is the main substance of abuse in Namibia (World Health Organisation, 2004). Policies and regulations are used to regulate trade and to protect the public against consuming too much alcohol. However, even with these policies in place in Namibia, they are rarely enforced (World Health Organisation, 2004).

1.3 Research Problem

Over the past few decades, there has been a movement where human behaviour is conceptualized in terms of the relationship (De Lange, 2009; Viljoen, 2008). This movement has contributed to Vorster's (1977) understanding and conceptualization of human behaviour, more specific, alcohol dependency. He identified interpersonal control within the marital dyad as an important factor in the maintenance of alcohol dependent behaviour. A change in the level of interpersonal control displayed by the dyad partners in a system may be instrumental in the change of alcohol dependent behaviour (Haley, 2005).

Interpersonal control is a construct with many different facets and the empirical study thereof presents major challenges (Pratto, Pearson, Lee & Saguy, 2008). This is reiterated by Tracey (1991) who stated that in order to understand control, it is imperative to understand the theoretical framework and context from which control is conceptualised.

Both Haley (2005) and Vorster (1977) describe interpersonal control within the context of the definitions of relationships. They describe alcohol dependency behaviour as an attempt to change the definition of the relationship. This is different than controlling behaviour. Controlling behaviour focuses on the one partner giving

instructions and the other having to follow these instructions. However, if the one partner manoeuvres his or her partner to be controlling within the relationship, the aforementioned is in control of the definition of the relationship.

Although psychometric assessment tools, such as the Sphere of Control Inventory and The Check List of Interpersonal Transactions Revised, assess interpersonal control, these instruments conceptualize interpersonal control as controlling behaviour and not necessarily in terms of the *processes* of defining the relationship (Kiesler, Goldston & Schmidt, 1991).

A scale that measures interpersonal control, where alcohol dependency prevails, as conceptualized by Haley (2005) and Vorster (1977) appears lacking in Namibia. Kagee (2006) argues that psychological therapeutic interventions should have a scientific foundation and be based on empirical data. The development of a scale that can measure interpersonal control as a maintenance factor in alcohol dependency will assist the therapeutic process to address the mentioned pathology.

1.4 Justification of study

Interpersonal control has been proven by Vorster (1977) and discussed by Haley (2005) as a significant feature within an intimate relationship where alcohol dependency is displayed by one of the partners. The development of a psychometrical tool that assesses interpersonal control is important for the following reasons:

- Torr (2000) indicated that relapse rates of alcohol related conditions are between 80% - 90% within the United States of America. This statistic is not available for Namibia. With alarmingly high relapse rates, it is imperative

that further investigation is done in order to add to our existing understanding of alcohol dependent behaviour, as well as the measurement of factors concerned with this problem behaviour, such as interpersonal control.

- Alcohol dependent behaviour has large-scale consequences. Physical health, mental health and social well-being are negatively affected by alcohol dependent behaviour. People of Namibia are not excluded from the adverse effects of alcohol dependency, especially so with alcohol as the main substance of abuse in Namibia.
- The development of a valid and reliable Interpersonal Control Rating Scale, specifically in Namibia, will be useful to determine the level of interpersonal control of the patient. Thus, one will be able to develop a strategic treatment plan accordingly.
- The scale may enable the clinician to assess the progress of the individual exhibiting alcohol dependent behaviour. Through the application of an interpersonal control rating scale, the possibility of relapse may be anticipated.
- Effective and efficient psychological treatment has become more and more important in a country such as Namibia. This is especially important in a third world country, such as Namibia, where citizens (without medical aid) may have limited funding to their avail for the treatment of dysfunctional behaviour such as alcohol dependent behaviour. In addition, those that can afford the monthly premium of medical aid funds only have limited funds to their benefit, as imposed by these medical aid funds, for treatment purposes. Time is likely to be saved in the therapeutic process with the application of

the Interpersonal Control Rating Scale in the assessment of interpersonal control as a maintenance factor in alcohol dependency.

1.5 Research Objective

The objective of this thesis is to develop a reliable and valid Interpersonal Control Rating Scale which will assist the clinician in the assessment of interpersonal control as a maintenance factor in alcohol dependency.

1.6 Research Questions

The following research questions are stated to achieve the research objective:

- *Research Question 1*

What interactional patterns are considered a valid representation of interpersonal control?

- *Research Question 2*

Can a newly developed Interpersonal Control Rating Scale reliably measure interpersonal control?

- *Research Question 3*

Can a newly developed Interpersonal Control Rating Scale validly measure interpersonal control?

1.7 Research Process

The development of a valid and reliable Interpersonal Control Rating Scale necessitated a research process that best guided such an undertaking. First and foremost, the key variables, interpersonal control and alcohol dependency were

defined. This gave an understanding of how these variables are conceptualized within this study.

Hereafter, General Systems Theory was employed to contextualize relationships and interpersonal control in the maintenance of alcohol dependency. With a thorough understanding of the interplay between interpersonal control and alcohol dependency, a critical discussion follows of the development of psychological measures. A model was build that guided this process of the development of the Interpersonal Control Rating Scale.

The following part of this research focused on the development of the Interpersonal Control Rating Scale. This nine-point observation rating scale was developed from literature and input from clinical psychologists. Each point described behavioural patterns associated with the level of interpersonal control displayed by a person. Although this scale was developed from literature, there was no indication that this scale would accurately measure interpersonal control.

To determine the accuracy of the Interpersonal Rating Scale, this scale was subjected to validity and reliability analysis. Twenty-one participants in total were assessed on the Interpersonal Control Rating Scale. The 21 participants consisted of three groups of seven participants each namely: seven participants that are in an intimate relationship and displaying alcohol dependency; seven participants that are in an intimate relationship with their partners displaying alcohol dependency; and lastly, seven participants that are in an intimate relationship where alcohol dependency is not prevalent by one of the partners.

The 21 participants were subjected individually to a non-directive interview in order to observe the interactional patterns of each participant. These interviews were

used by four clinicians to give a rating to each of the 21 participants. This process and the statistical analysis of the ratings are described in the methodology section of this thesis.

The interrater reliability was determined through an intraclass correlation coefficient to determine the reliability of the Interpersonal Control Rating Scale. An ANOVA was utilized to assess the validity of the Interpersonal Control Rating Scale. The results are described and discussed in Chapter 4. With the reliability and validity argued for the Interpersonal Control Rating Scale, this research concludes with indicating the achievement of the research objective, the implications and limitations of this research, as well as further possible research opportunities.

1.8 Definitions of Key Variables/Terms

1.8.1. Towards a Definition of Interpersonal Control

De Leeuw and Volberda (1996) define control, from a systems perspective, as any actions of directed influence. Baecker (2001, p. 60) defines control as “a means to establish causality ensured by communication. Control consists in reducing degrees of freedom in the self-selection of events.” Hobbs (2009, p. 85) adds to these definitions by asserting that control “also limit[s] the repertoire of behavio[u]rs available to the organism and, in this respect, limit[s] the adaptability of the organism (person) in the environment.”

Although the definition of control given by De Leeuw and Volberda (1996) is very broad, it is important to note that there needs to be a directed influence. This is also supported by definitions provided by Baecker (2001).

The influence of the relationship is established through communication. Communication refers to verbal and non-verbal messages. Verbal messages consist of the content, as well as the linguistic patterns of the message. Non-verbal messages include bodily movement and vocal patterns. These messages are normally communicated on two levels. The first level of communication consists out of the content of the message. On the second level of communication, messages qualify and give comment on the nature of the relationship (Haley, 2005; Matthews, 1986). Thereby, the relationship is defined; the rules are established of what behaviours and interactions are allowed and what are not allowed within that relationship. Interpersonal control therefore refers to the direction given to the nature of the relationship. It is important to note that interpersonal control, as conceptualized by Haley (2005) does not necessarily refer to controlling behaviour within relationships (although it is not excluded), but to the direction given to the definition of the relationship.

Different terms are used to describe the concept of control. Although the term 'control' is mostly used, another term, 'power', is used synonymously by researchers and theorists. This is evident through Davis (1976, p. 30) who states that "family members seek control or power through [the] definition of the relationship." The consequences of interpersonal control, to determine the end result or behaviour of another through the definition of the relationship, is similar to Haley's (2007) view of the consequences of power.

Although control and power is used interchangeably many a time, these constructs do not always have the same meaning within the context of relationships. Greer and Van Kleef (2010) refer to power as the *capacity* to modify relationships.

Interpersonal power, therefore, refers to the capacity by the members of a relationship to modify and exert influence within the relationship.

The definitions of control provided by Baekcer (2001) and Hobbs (2009) indicate that control within a relationship has intent of determining an outcome within the relationship. Haley (2005) asserts that control within the relationship refers to the influence that a person exerts to change the nature of the relationship. The nature of a relationship is determined by the rules that govern that relationship. Therefore, interpersonal control refers to the intent to change or influence the rules that govern a relationship.

For the purpose of this study, interpersonal control is defined as follows (Greer & Van Kleef, 2010; Haley, 2005):

Interpersonal control in a communication dyad refers to the interpersonal power displayed in the dyad by participants influencing the nature of the relationship.

1.8.2 Defining Alcohol Dependent Behaviour

Not every person who uses alcohol displays dependent behaviour. Certain criteria are given and these need to be met in accordance with the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders in order to classify a person as being dependent on alcohol. Sadock and Sadock (2003) state that the criteria are the same for all substance-related disorders. According to Sadock and Sadock (2003, p. 383), the DSM-IV-TR Diagnostic Criteria for Substance Dependence are as follows (American Psychiatric Association, 2000):

A maladaptive pattern of substance use, leading to clinically significant impairment or distress, as manifested by three (or more) of the following, occurring at any time in the same 12-month period:

- (1) *Tolerance, as defined by either of the following:*
 - (a) *a need for markedly increased amounts of the substance to achieve intoxication or desired effect*
 - (b) *markedly diminished effect with continued use of the same amount of the substance*
- (2) *Withdrawal, as manifested by either of the following:*
 - (a) *the characteristic withdrawal syndrome for substance (refer to Criteria A and B of the criteria sets for withdrawal from the specific substances)*
 - (b) *the same (or a closely related) substance is taken to relieve or avoid withdrawal symptoms*
- (3) *The substance is often taken in larger amounts or over a longer period than was intended*
- (4) *There is a persistent desire or unsuccessful efforts to cut down or control substance use*
- (5) *A great deal of time is spent on activities necessary to obtain the substance (e.g., visiting multiple doctors or driving long distances), use the substance (e.g., chain-smoking), or recover from its effects*
- (6) *Important social, occupational, or recreational activities are given up or reduced because of substance use*

- (7) *The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the substance (e.g., current cocaine use despite recognition of cocaine-induced depression, or continued drinking despite recognition that an ulcer was made worse by alcohol consumption)*

Although the abuse of alcohol may take place recurrently, it is not necessarily classifiable as alcohol dependency (Sadock & Sadock, 2003). The diagnostic criteria for alcohol dependency need to be met in order for a person to be diagnosed with alcohol dependency.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

As in other parts of the world, alcohol is widely consumed in Namibia within various settings. At many social gatherings, formal or informal (such as family grill, sports events, friends visiting), the use of alcohol is accepted as normal and appropriate (World Health Organisation, 2004). However, the use of alcohol can easily interfere with the overall functioning of a person and society as a whole.

One of the basic criteria for any pathology, such as alcohol dependency, is that the behaviour needs to affect the overall functioning of the person and causes marked distress (Sadock & Sadock, 2003). Academics and literature refer to the implications and effects of alcohol dependent behaviour within the framework of physical health and social well-being, as well as the burden this behaviour has on society (Babor, Higgins-Biddle, Saunders, & Monteiro, 2001; Enoch & Goldman, 2002; World Health Organisation, 2004; World Health Organisation, 2007).

In order to treat alcohol dependent behaviour and to address the consequences thereof, various professionals treat alcohol dependency from their occupational framework or perspectives. Clinical psychologists focus on behavioural patterns in order to treat the dependency. To change behaviour, such as alcohol dependency, and to address the destructive consequences, clinical psychologists rely on psychological theories as bases for such endeavours.

2.2 General Systems Theory and Alcohol Dependent Behaviour

There are various psychological theories (frameworks) explaining alcohol dependent behaviour. These theories can basically be divided into two groups.

The first group of theoretical frameworks, the intrapersonal psychological frameworks, focuses on the individual-based psychological processes to explain alcohol dependent behaviour. The intrapersonal perspective focuses on the variables within the psychological structure of the person as determinants of behaviour (Viljoen, 2008). This perspective describe alcohol dependence in terms of variables within the psychological structure of the person.

Over time, the interpersonal approach has changed our understanding of human behaviour. Where intrapersonal frameworks posit that behaviour is the function of variables within the person, the interpersonal approach conceptualises behaviour in terms of interpersonal (interactional) processes (Viljoen, 2008).

Although these two frameworks seems opposing, Theron (2008) claims that intrapersonal processes govern the interactions among people. This is in line with Cilliers (1993) who stated that history and context are important for the understanding of interactions. Therefore, in order to understand the interactions of someone displaying alcohol dependent behaviour, intrapersonal theories enhance the understanding of the context/history from where such a person operates.

Vorster (1977) researched alcohol dependent behaviour through analysing the interactions between a person exhibiting alcohol dependent behaviour and a functional intimate partner. His focus was not on the variables within the person, but rather on *the processes between people* in conceptualising alcohol dependency. The focus shifted from the intrapersonal conceptualizations of human behaviour to

interpersonal theories conceptualizing human behaviour. Haley (2005) has described interpersonal control as an important interactional factor in explaining and treating dysfunctional behaviour, such as alcohol dependency. To understand the interpersonal model, a discussion of General Systems Theory is important.

2.2.1 General Systems Theory

General Systems Theory is a paradigm that resulted from the pioneering works of Ludwig von Bertalanffy in the 1950's (Capra, 1997). Being holistic in his approach, he aimed to explain the interrelatedness of organisms in ecosystems.

Over the years, General Systems Theory has found applications in various disciplines such as physics, computer science, biology, and engineering, as well as geography, sociology, political science, and economics. It also found an important footing in psychology (Bloom, 2000).

In order to understand human behaviour, and in particular alcohol dependent behaviour, from a General System's perspective, the characteristics of this theoretical framework need to be understood.

2.2.1.1 Characteristics of General Systems

In literature, various definitions are given for general systems. Although there are some differences in these definitions, the essence thereof is mostly overlapping. Three definitions which capture the essence of general systems can be highlighted here:

- Von Bertalanffy (1965, p. 1) defined general systems as “a complex of elements in interaction”; these interactions are of an ordered (non-random) nature.
- Curry, Flett and Hollingsworth (2006, p. 99) stated that “the basic definition of a system is that it is a coherent whole with a boundary, which separates it from everything else.” Curry et al. (2006) further asserted that within this boundary there are interrelated objects that function in an organised manner.
- Kefalas (2011, p. 347) defined a general system as "a set of objects together with relationships between the objects and their attributes connected or related to each other and to their environment in such as way as to form an entity or a whole."

In terms of the definitions provided above, all systems have a boundary. Boundaries are considered as a division, where everything inside the boundary is considered as the system and everything outside of the boundary is the environment. The boundaries in closed systems (e.g. motor engine) are sealed. The boundary of a closed system does not change, as the definition of the system does not change. Open systems have a less sealed boundary, allowing the system to interact with the environment. This allows the system to change.

The environment, which is delineated by the boundary of the system, consists of everything that is not under the control of the system (Curry et al., 2006; Panagiotakopoulos, 2005). This implies that the system has the power to manipulate only what is happening within the boundaries of the system.

The system, which is within the boundary, may have an influence on the environment and vice versa (Curry et al., 2006). Although the system and environment may affect one another, the system does not necessarily manipulate the environment. Also, the environment does not manipulate what is happening within the system.

Within the boundaries of systems, general systems consist of elements or subsystems. The elements of the system are defined by the nature of the definition of the system (Capra, 1997). For instance, when the system is a family, the elements of that system are the members of the family. However, each individual can also be a system in itself consisting of elements (subsystem), such as biological (e.g. subsystems: body parts, intestines) and psychological (e.g. amount of interpersonal control) subsystems.

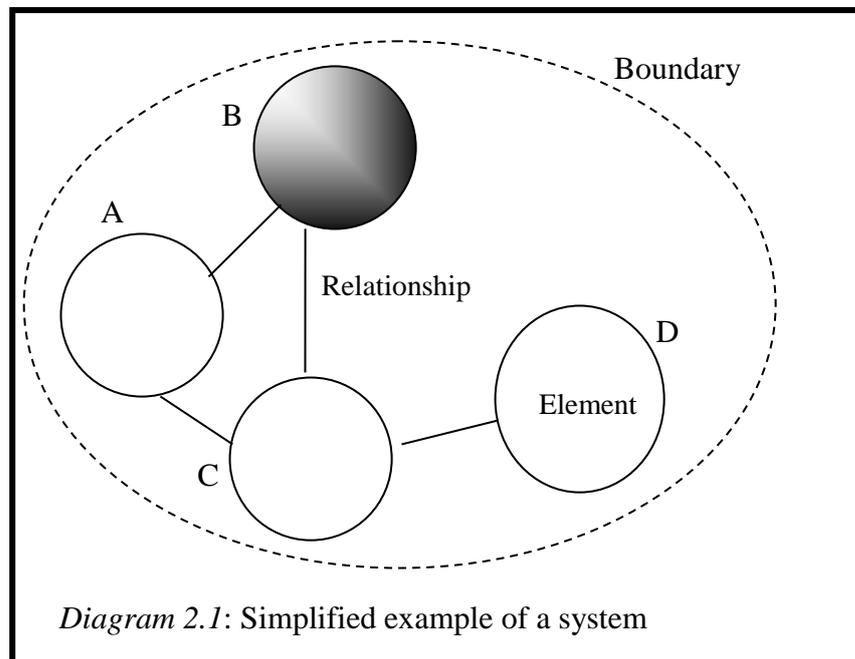
A system can interact with other systems (family interacts with other families). Systems that interact with other systems and that are delineated by a boundary, is known as a suprasystem (the definition of the system is community or society) (Capra, 1997).

Human (element) behaviour is a function of the system. Individual functioning is therefore described in terms of the interactions that take place among individuals (elements) that form part of a specific system (e.g. family). With this basic understanding of the structural components of general systems, the interaction within systems (as well as with other systems) and the functioning of systems can be described within the framework of these components.

2.2.1.2 Interaction and General Systems

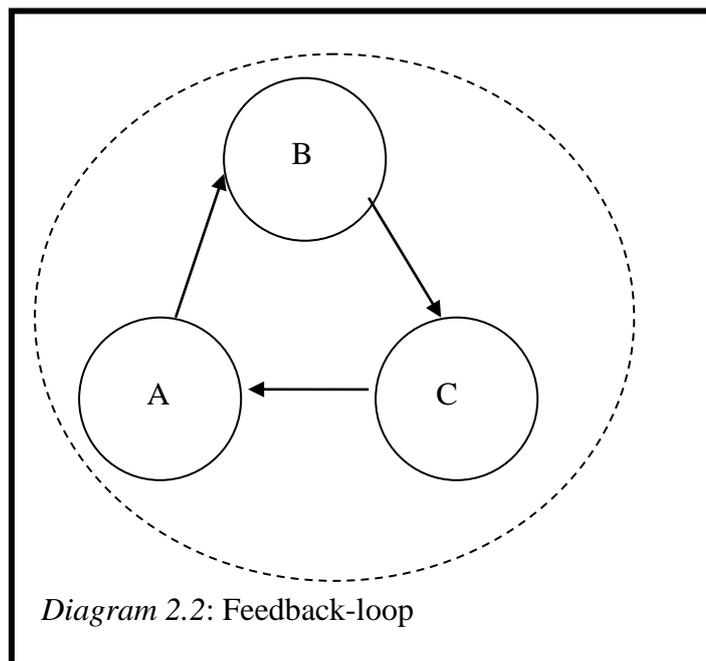
In terms of the three definitions of general systems mentioned in section 2.2.1.1, it is evident that general systems do not only consist of the components, but they exist due to the interactions within the system. There are two types of interaction pertaining to systems:

- Within systems, the elements or subsystems interact with one another, depending on whether or not the elements have relationships with one another (Curry et al., 2006).
- The second type of interaction happens between the system and the outside environment (Kefalas, 2011).



In diagram 2.1, each circle represents an element, and a line represents a relationship between elements. In order for interaction to take place between elements, a relationship needs to be existent (Capra, 1997).

Interaction within systems takes place when energy and information are transferred from one element to another. This happens due to the differences between elements. Within diagram 2.1, interaction will take place between element B and element C, and also between element B and element A. This is due to the relationships that are present between those elements, as well as the differences between elements as illustrated in Diagram 2.1. However, no interaction will take place between elements B and D and elements A and C (no difference between those elements).



The flow of information is known as feedback. When elements have a circular arrangement (Diagram 2.2), as is the case between elements A, B and C, such an arrangement is called a feedback-loop.

Systems are separated from the environment with a boundary. Interaction between the environment and the system can only take place if the system is open, having less of a sealed boundary, such as human systems (e.g. marital dyad as a system). When the system receives information from the environment, it is called input. The marital dyad receives input from friends, other couples or from the work environment (Moore, 2008b).

Within the system, the information is transformed or incorporated in accordance with the rules of the system (Oetter & Stevens-Domingues, 1998). The system may at times not be able to control the inputs or manipulate the inputs in order to achieve a desired output or end result. This is known as a disturbance (Capra, 1997).

Due to the nature of the boundary of open systems, information and energy are also transferred from the system to the environment (Curry et al., 2006). This is called output.

2.2.1.3 Functioning of General Systems

The knowledge of the components of general systems, as well as the interactions between systems and within systems, constitutes the foundations for the discussion of the functioning of general systems. The discussion starts off with hard and soft systems as an introduction to the functioning of closed systems and open systems.

The field of hard systems evolved during a timeframe when theorists were concerned with that which is measurable (Panagiotakopoulos, 2005). Examples of hard systems include vehicles and temperature regulators. The observations of these systems are completely objective (Macário, 2005). The interactions within hard systems are linear and can be fully controlled and quantitatively explained. Closed systems or hard systems find applications mostly in the field of physics, mathematics and engineering.

This is in contrast to soft systems, which refer to amongst others, human systems and/or social systems. The components of soft systems are more

differentiated with highly complex interactions. These systems are mostly adaptive and self-organising. Examples of soft systems include cells, organisms, family systems and political systems (Panagiotakopoulos, 2005).

In contrast to hard systems, it is difficult to objectively observe soft systems (Richardson & Midgley, 2007). One element in a system is not aware of the behaviour of the system as a whole or the interactions within the system as a whole. This is because the complexity of the system is not represented in a single element, as one element does not have the exact history, properties and interactions as all the other elements within the system (Cilliers, 1993).

All systems will find themselves on a continuum from an open to a closed system, which is determined by the type of boundary of the system (Morgaine, 2001). A closed system does not have any type of interaction with the environment, as this system has a completely sealed boundary (Curry et al., 2006).

Not many systems are completely closed where no information or energy is exchanged with the environment (Panagiotakopoulos, 2005). A rock may seem like a closed system, with the surface being the boundary of the system. When the temperature input (temperature of the environment) changes the temperature of the rock, the composition of the rock will change accordingly. The environment caused the elements within the rock to act differently. Although little interaction takes place, it is still an open system. The boundary of a system is not the visual boundary of the system; the boundary is, instead, dependent on the definition of the system.

The structure of closed systems stays fixed; its structure cannot change, as it does not receive any energy input from outside the system (Capra, 1997). Furthermore, closed systems do not release any energy to the environment. Some of

the functioning mechanisms of closed systems are best described in terms of the laws of thermodynamics.

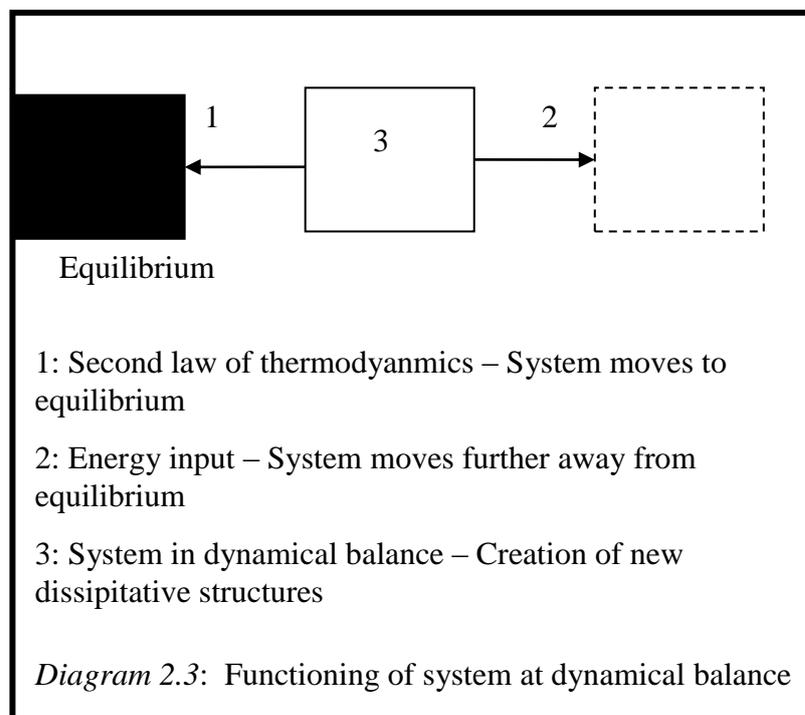
The first law of thermodynamics states that energy or matter cannot be destroyed or created. Although the amount of energy remains constant, energy may change in form. According to the second law of thermodynamics, some mechanical energy dissipates into heat (change of form of energy) which cannot be completely recovered (only lost for the closed system, not environment) (Capra, 1997). The energy within a closed system keeps decreasing. Based on the second law of thermodynamics, it is inferred that, without input from outside the system, it will run down, as the system will have no more energy to function. This is a process where the system moves from a state of order to one of disorder (Capra, 1997).

According to (Moore, 2008b), pathology, such as alcohol dependency, prevails within soft (human) systems when the system is relatively closed. There is little input from the environment. Such a closed soft system is confined to the dysfunctional and repetitive feedback-loops. These closed soft systems have strong boundaries, thereby limiting the input from the environment (e.g. psychotherapeutic interventions). The boundaries of the sub-systems tend to be fused within such dysfunctional closed soft systems. Pathology is conceptualized in terms of how the system is structured and organized.

The state of disorder, which is related to the availability of usable energy within systems, refers to the concept of entropy (De Lange, 2009). Entropy in closed systems increases; it progresses along a continuum (of order and disorder) to a higher state of disorder and usable energy thus decreases. When the system remains

constant in time and has completely run down with all processes coming to a halt, it has reached a state of equilibrium (Von Bertalanffy, 1965).

In contrast to closed systems, open systems function far from the state of equilibrium. When an open system does not change, therefore appearing to be in equilibrium, it is actually functioning at a dynamical balance or dynamical equilibrium (Jansen van Vuuren, 2002; Millet, 1998). A dynamical equilibrium is reached when the ongoing activity is balanced among the opposing forces within a system (Millet, 1998).



The dynamical balance can move closer (Diagram 2.3 – no.1) and further (Diagram 2.3 – no. 2) from the equilibrium. Without input from the environment, the system loses energy in some form as explained by the second law of thermodynamics. Systems will always have a propensity towards increasing entropy, moving closer to equilibrium. This is indicated by number 1 in Diagram 2.3.

Due to energy input from the environment (entropy decreases – available usable energy increases), the system will have a propensity to move further away from the equilibrium. This is indicated by number 2 in Diagram 2.3. However, the system will resist moving further away from equilibrium due to the tendency of the system to move to a state of equilibrium (Panagiotakopoulos, 2005).

When there is more energy input than energy loss (second law of thermodynamics), the question arises: What happens to the energy input? The energy input is converted within the system through reorganising itself by the creation of new structures (dissipative structures – as indicated by no. 3 in Diagram 2.3) and forms of behaviour. Thereby, the system evolves and functions at a state of higher order, differentiation and organisation (Capra, 1997; Jansen van Vuuren, 2002; Von Bertalanffy, 1965).

Within soft human systems, energy input may take the form of psychotherapy. When pathological organisation and structures presents itself within a soft system, the energy input (therapy) may bring about change to the organisation and structure of the system and therefore also change to the pathological feedback-loops within such a system (Moore, 2008b).

Through this restructuring, the system is able to deal with the input from the environment. Kay, Regier, Boyle and Francis (1999) assert that increased resources are obtained through the processes of self-organisation. However, if the input or inflow of energy is more than the system can handle through restructuring, the system moves to a state of chaos.

Chaos is a state that threatens the existing structures of the system, pushing the system towards a critical point, also known as a bifurcation point (Macário,

2005). “The bifurcation point is a threshold of stability at which the dissipative structure may either break down or break through to one of several new states of order” (Capra 1997, p. 186).

The new state of order is a point where the system will find a new dynamical equilibrium through self-organisation. As the system evolves towards states of higher complexity and differentiation, it is not possible to determine the end-state or the new point of dynamical balance of the system.

The difficulty of determining the end state of a system can be ascribed to the non-linearity of open systems. Linear systems, which apply mostly to closed systems, have specific cause and effect, with the result being in the same proportion as the cause it resulted from. This is in contrast to open systems where a small change in the initial state of the system may have large-scale consequences. This is known as the ‘butterfly effect’ that metaphorically states that a butterfly flapping its wings in Beijing causes a storm in New York (Capra, 1997). It is important to note that although the end result cannot be predicted or calculated, “the behaviour of chaotic systems is not merely random, but shows a deeper level of patterned order” (Capra, 1997, p. 122).

Human systems have a tendency to maintain established patterns of behaviour (Adelson, 2010). Interventions (psychotherapy) is indicated when a human system, such as a family, maintain dysfunctional interactions which perpetuates some form of pathology (alcohol dependency). However, the therapeutic process need to be a carefully considered process, as excessive input may push a family or marital system within a state of chaos. In according with Chaos Theory, the end-result of such input cannot be determined. Therefore, the therapeutic interventions should be of such

nature that the system uses the input to evolve to higher complexity and differentiation through restructuring. The change in feedback-loops or dysfunctional interactions causes the systems, such as the family or marital systems, to function optimally.

Systems evolve through time, with the past and present sharing responsibility for the current behaviour of the system. An understanding of systems without taking the time dimension into account, is incomplete and merely a snapshot of a changing process (Cilliers, 1993). As an example, how a person will react if the stock market plunges will not only be based on the falling of the stock market, but also on previous experiences of previous instances when the stock market plunged.

This example implies that two identical systems will react differently to the same situation due to their history and past experiences. In terms of self-organisation and chaos, the dynamical balance a system reaches will not only depend on the input of the system, but also on the previous history of the system (Theron, 2008).

In an interpersonal system, where alcohol dependency prevails, General Systems Theory offers an excitingly different angle to the understanding of such behaviour. In this interpersonal system, interpersonal variables such as interpersonal control play a vital role in the understanding of dysfunctional behaviour such as alcohol dependent behaviour (Haley, 2005).

2.2.1.4 Control Systems Theory

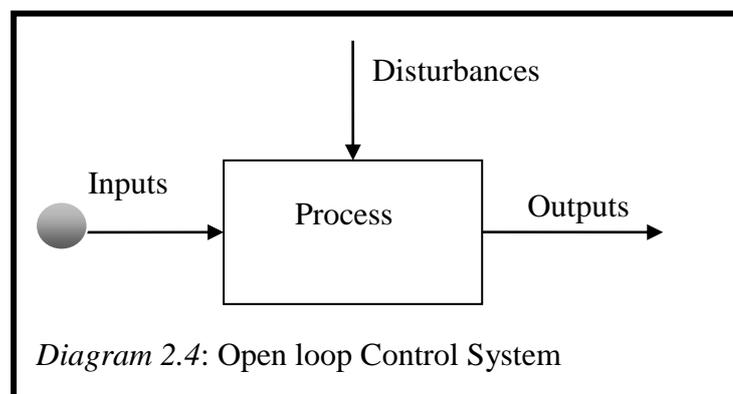
Control Systems Theory was developed as a branch of General Systems Theory and is applied in various fields such as mathematics and engineering. In

order for systems to maintain their existence, it employs self-regulatory mechanisms to control its activities (Curry et al., 2006).

There are certain prerequisites for a system to be a Control System. Firstly, there must be a goal or desired state. Secondly, it must be possible to determine the current state of the system. Lastly, it must be possible to affect the state of the system (Johansson, 2005).

All control systems consist of four elements namely (i) control object or plant, (ii) a sensor or detector to monitor output, (iii) a comparator that looks at the difference between the actual and desired performance, and lastly (iv) a controller that takes the necessary action to obtain the desired input (Curry et al., 2006; Doyle, Francis & Tannenbaum, 1990).

According to Johansson (2005), control systems aim to maintain or control the output of the system by varying the input. The “control is exercised by means of control loops,” which are either open or closed loops (Curry et al., 2006, p. 106). The main difference between open and closed loop control systems is the mechanism determining the input.



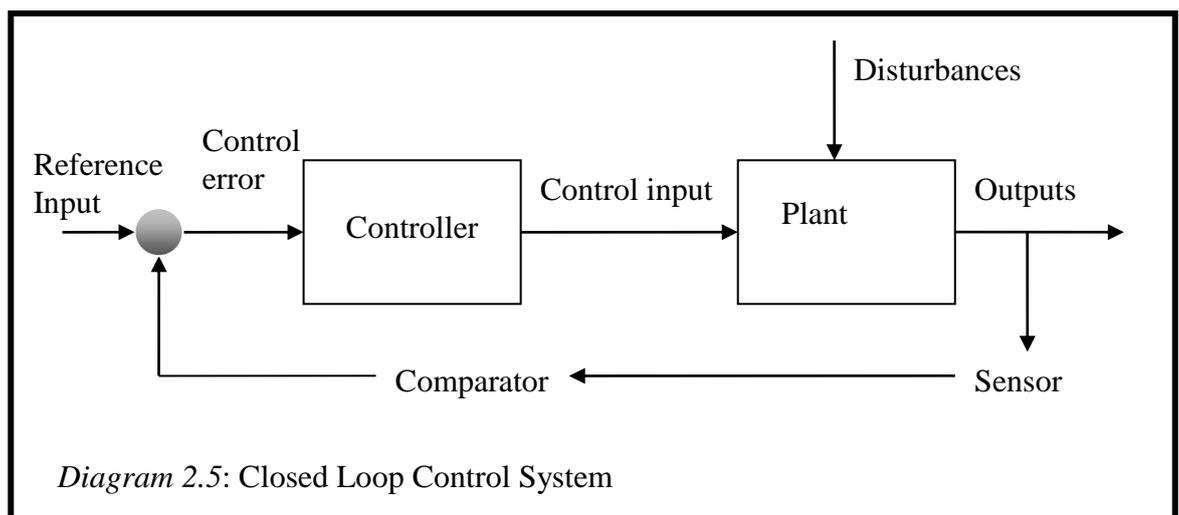
In open loop control systems (diagram 2.4) the inputs and outputs are not necessarily linked (Curry et al., 2006). At the extreme of open loop systems, there is no

comparison between the desired and actual output. It is assumed that a specific amount of input will generate a certain amount of output (e.g. through calculations or past experiences) (Curry et al., 2006).

It is rarely the case that no comparison is made. Many a time, people will close the feedback loop by comparing the expected with the actual end result and then through feedback, the input is adjusted. However, there is no continuous comparison within open loop control systems.

Open loop control systems are rather simple and easy to construct. Due to no comparisons between the desired and actual output, the accuracy of these control systems are not as good as closed loop control systems (Kleineidam, 2000).

In closed loop control systems (Diagram 2.5), the actual output is measured by the sensor and is compared with the desired output (also known as the reference input – the input that will give the desired output) (Doyle et al., 1990). The controller makes adjustments to the input (control input) in order to obtain the desired output.



However, the controller may fault (e.g. wrong calculations) in the adjustment of the

input that is needed to obtain the desired output. This is known as the control error. The aim of the controller is to keep the control error equal to zero.

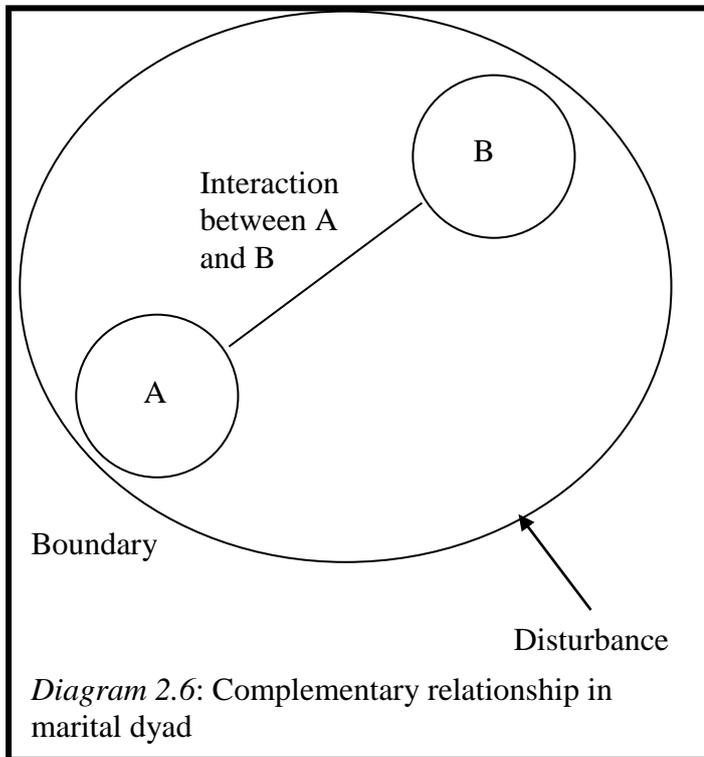
Due to input disturbances or the control errors, there is a probability to have a difference between the desired and actual output (Kleineidam, 2000). The constant feedback results in a continuous adjustment of the input to reach the desired output. Therefore, close loop control systems are normally more accurate.

2.2.1.5 General Systems Theory, Interpersonal Control and Alcohol Dependent Behaviour

The person exhibiting alcohol dependent behaviour is an element within different systems, e.g. the family system, work system, social system and so forth. Within these systems, the elements interact. According to Haley (2005), these interactions fall on a complementary-symmetry continuum. With symmetrical relationships, the behaviour of person A is matched by the behaviour of person B. In complementary relationships, the behaviour of A will cause B to display opposite behaviour (Bateson, 1979).

Vorster (1977) analysed the interaction (flow of information) within the marital dyad (elements A and B), with the one partner being functional and the other displaying alcohol dependent behaviour (Diagram 2.6). Through this analysis, Vorster (1977) established that a complementary relationship exists within the dyad, with the non-alcoholic partner being either overtly or covertly in control of the relationship and the partner displaying alcohol dependent behaviour having little or no control over the relationship. Irrespective of the intrapersonal variables/context of

the elements (A and B), interpersonal control was found to be an important relational factor in the maintenance of alcohol dependency (Vorster, 1977).



Being in control of the relationship means that the person has control over the interactions that are to take place between the elements (A and B; intimate partners) and the interactions that are not to take place (Haley, 2005). The person in control of the relationship sets the rules of

how and what interaction is to take place in the relationship.

According to Haley (2005), pathology becomes a way of handling a relationship. The person displaying pathology is trying to communicate with the other elements of the system through his or her behaviour (Walsh, 2003).

In terms of alcohol dependency, the partner displaying alcohol dependent behaviour is giving feedback within the system that he or she is not satisfied with the balance of control of the relationship; there is a struggle for the control of the relationship. The relationship between the two partners changes in a “significant way” due to the use of alcohol (Vorster, 1977, p. 119).

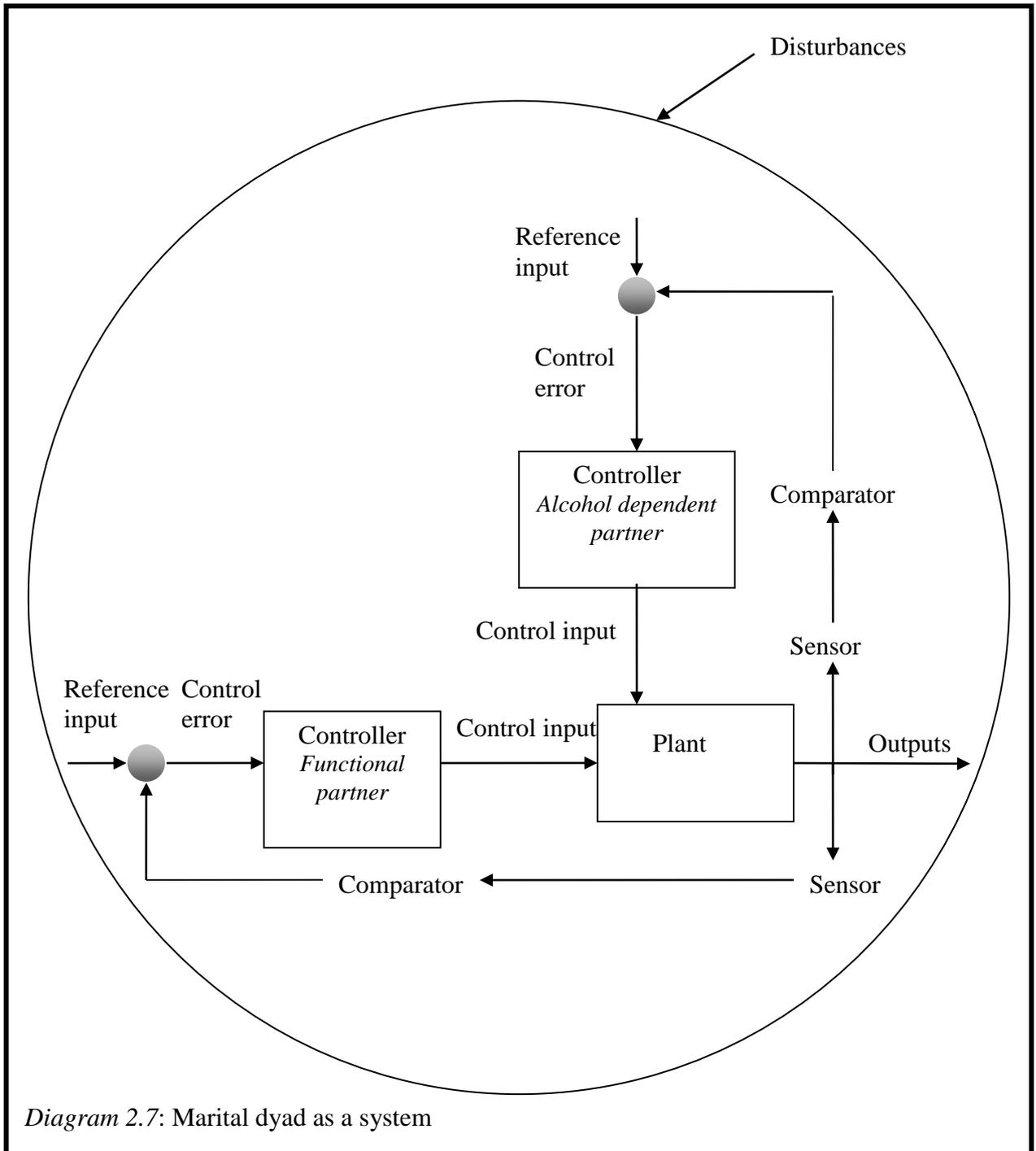
The alcohol dependent partner uses his/her drinking behaviour to restore the original balance in terms of interpersonal control. The abuse of alcohol serves the

function of gaining some control of the relationship by, firstly, becoming freer to communicate (e.g. expressing aggression) and freer to direct his or her own behaviour (Vorster, 1977). The second function of alcohol abuse is that it prohibits certain behaviour of the functional partner (e.g. if too much stress is placed on the alcohol dependent person by the functional partner, he or she may be more vulnerable to relapse). Therefore, even when sober, the previously alcohol dependent person gains control over what interaction may or may not take place.

There are two important conditions that need to be met in order for alcohol dependency to develop and maintained. Firstly, the functional partner is usually very sensitive to the usage of alcohol by the partner and will usually react quite strongly to the use of alcohol. Secondly, the person displaying alcohol dependent behaviour must not be satisfied with the amount of control that he or she has over the relationship with the functional partner. If the alcohol dependent partner were to be satisfied with the complementary relationship in terms of the control of the relationship, the pathology (alcohol dependency) will not develop (Vorster, 1977).

In terms of control theory, there is a struggle over the control of the plant (relationship). There are two closed loop control systems with only one plant (Diagram 2.7). For both subsystems, the output will be the 'how and what interactions are allowed to take place'. In other words, the output will be the effect that each partner has on the other partner in terms of what behaviour is accepted and what behaviour is not. For instance, if A is in control of the relationship (plant), B follows the rules set by A. If A decides that voices are not raised during an argument, B will not raise his or her voice during the argument.

The senses of each member of the dyad act as sensors. The information generated by the sensors is used by the comparator (the members of the dyad). The difference between the actual amount of control of the relationship and desired



amount of control of the relationship is fed back to the controller (functional partner; alcohol dependent partner). Depending on the information that is fed back in terms of the difference in actual and desired output (amount of control of the relationship), the partner will change the input in order to achieve the desired output.

An alcohol dependent person will, for instance, compare the desired amount of control of the relationship with the actual amount of control. Due to the difference between the actual and desired output, the controller (person displaying alcohol dependency) will adjust the input, which will be done in terms of alcohol intake. The functional partner, on the other hand, will tell the alcohol dependent person not to drink alcohol, thus trying to define the rules regarding the use of alcohol within that relationship.

2.2.1.6 Treatment

Therapy from the interpersonal framework, which is based on systemic thinking, focuses on the interactions between people. These interactions are verbal and non-verbal messages communicated by people.

According to Haley (2005, p. 9), when any two people are interacting with one-another, they can either struggle or reach consensus on “what messages, or what kinds of behaviour are to take place in this relationship,” and “who is to control what is to take place in the relationship” – hence, who is in control of the interaction taking place between the two people.

Communication to gain control of the relationship (manoeuvring for control of the relationship) basically consists of “requests, commands or suggestion that another person do, say, think, or feel something” (Haley, 2005, p. 12). According to

Vorster (1977), this struggle for control of the relationship, through these manoeuvres, is a precipitating factor in the development of alcohol dependent behaviour (if a partner is sensitive to the excessive use of alcohol), as well as the maintenance thereof.

Haley (2005) argues that struggling for control of the relationship is not necessarily psychopathological; it is instead when one of two people in a relationship is manoeuvring for control of the relationship while indicating otherwise. If, for instance, the functional partner requires his or her partner to drive their children around by car, the alcohol dependent person is saying that, although he or she wants to drive the children around, he or she cannot do so (cannot drink and drive); it is the fault of the alcohol. In another example, if the alcohol dependent partner loses his or her job due to the use of alcohol on the job, the partner needs to support the household financially (e.g. "It is the fault of the alcohol that I cannot provide financially."). In both these examples the alcohol dependent partner gains control of specific areas of the relationship.

The focus of therapy will be to change the communicative processes between the functional and alcohol dependent partner. The task of the therapist is to interrupt the current interactional patterns that are dysfunctional (Walsh, 2003). Alternative interactions need to be learnt in order for both partners to deal with the struggle for control over the relationship. The input (therapy) will cause the system to form new dissipative structures that cause the system to behave differently.

In terms of systems theory, elements of a system will act in such a way to maintain its functioning at a dynamical balance. The system will oppose change. If one partner of the system is to bring change to the system, other elements of the

system will counteract so that the dynamical balance is kept in place. If one partner tries to change the definition of the relationship, the other partner will counter in order to keep the status quo in terms of the control of the relationship. Therefore, it is important for both the partners to be involved in the therapeutic process, as it is the interactional processes between them that need to be addressed in terms of the rules/definition of the relationship.

2.3 Research Rationale

The interpersonal approach has a significant impact in our understanding of human behaviour (Viljoen, 2008). Kagee (2006) motivated the continuous research of psychological related subjects to improve research processes. This includes constructs such as interpersonal control, a maintenance factor in alcohol dependency, as described by Haley (2005).

General Systems Theory as a theoretical framework allows for such undertaking and is therefore used as the basis for this research. This framework enables not just individual therapy, but also family and couple therapy.

When therapy is done, certain input may cause the system to move in a state of chaos, where the end result cannot be determined. The end result may be that the system (intimate relationship) breaks down. Therapy should therefore be a carefully considered process.

It is difficult for the therapist to comprehend the system dynamics of the alcohol dependent person objectively. Due to the therapists' past experiences and own context, the therapist may be subjective in his/her understanding of the person displaying alcohol dependency.

According to Kagee (2006), therapeutic interventions should not be based on the therapist's intuition (which is subjective), but rather on research. The solution to the problem of subjectivity lies in the development of an Interpersonal Control Rating Scale. This scale, as a measurement tool, can contribute to the objectivity of the therapeutic processes.

2.4 Psychological Assessment

Psychological assessment is a discipline within the field of psychology concerned with the measurement of human behaviour. Through assessment, various psychological constructs can be measured.

Modern psychological testing has found its roots in cognitive testing in the late 19th and early 20th century. A rise in children in classes, as well as their diverse backgrounds encouraged Alfred Binet to develop, what is considered by Geisinger (2000) as the first standardized intelligence test. The emphasis of test development during that time was to develop an assessment tool that could indicate the differences among people due to individual differences and not due to administration or measurement error. This is mostly attributed to the works of Wilhelm Wundt who established the first psychology laboratory (Geisinger, 2000). Wundt and other leaders in testing, emphasised the importance of control of testing procedures and stimuli. Differences in the outcomes of tests could therefore be attributed to individual differences due to standardized testing procedures.

Due to the political climate in the early 20th century, Binet promoted the idea of using intelligence tests in the army. With the outbreak of the First World War the American Psychological Association was involved in the development of

psychological testing for recruits in America (Jones & Thissen, 2007). These tests were used to screen for intellectual and emotional problems. It was during this time period that tests were used on a group basis. This allowed for more efficient and economical testing. Testing during the Second World War played an even bigger part in screening recruits for their suitability to go to war.

Since the two World Wars, much change has come in terms of the constructions of psychological measures, the broad spectrum of behaviours assessed and the vast increase of contexts wherein these measures are used. The growth of psychological assessment has extended to applications in the educational, counselling, clinical, psychodiagnostic, forensic, industrial, occupational and in the research settings (Foxcroft & Roodt, 2005a).

2.4.1 Approaches to the Measurement of Behaviour

2.4.1.1 Intrapersonal Measures

The measurement of individual differences, such as cognitive abilities, motivation, emotions and personality traits, has its foundation in intrapersonal theories (Foxcroft & Roodt, 2005b; Graziano & Raulin, 2004). When measurements are done from an intrapersonal framework, various tools are developed to study the variables within a person. These psychological measures include cognitive ability measures such as the Wechsler Adult Intelligence Scale and Senior South African Intelligence Scale, and personality questionnaires such as the 16 Personality Factor questionnaires and the Minnesota Multiphasic Personality Inventory.

2.4.1.2 Interpersonal and Observational Measures

Lawrence, Shaw, Baker, Baron-Cohen and David (2004) discussed the measuring of empathy as a self-report measure. Their definition of empathy involves the accurate understanding of another person's emotional state and being able to reflect this understanding to that person. Sufficient reliability and validity were found for the empathy scale (Lawrence et al., 2004). However, the question remains whether the assessed empathy (as per self-report) is experienced by those the person interacts with.

Contrasting to self-report measures, Truax and Carkhuff (1967) developed rating scales to evaluate interactional processes. These interpersonal rating scales, empathy, unconditional positive regard and genuineness, are applied through the observations of the interactions between/among people. The rating scales of Truax and Carkhuff (1967) have found various applications such as in training and development programmes for sensitive and optimal relationship forming (Cilliers & Wissing, 1993; Theron, 2008).

Raath (1984) revised the scales of Truax and Carkhuff and further developed an assertiveness rating scale in the measurement of interpersonal competencies. These scales, similar to the application of the scales developed by Truax and Carkhuff (1967), are nine-point scales - each point indicating a different level of functioning in terms of the construct, e.g. level of empathy. Based on the observed interactional style, the level is indicated in terms of the interpersonal competence. Each level within these scales has descriptions of interactional styles associated with the level of these interpersonal competencies. Having nine levels in the scale was preferred over having five levels, as the former allows for greater discrimination.

Various observational rating scales have been employed to assess behavioural patterns among people. These include The Leader Observation Tool and The Global Ratings Scales of Mother–Infant Interaction (Eames et al., 2008; Gunning et al., 2004).

The Katz Adjustment Scale is another observational measurement tool used to assess self-regulation and social functioning when a person has, for instance, sustained a traumatic brain injury (Baker, Schmidt, Heinemann, Langley & Miranti, 1998). Self-report measures may not necessarily measure such a person's actual self-awareness and social adjustment.

2.4.1.3 Interpersonal Control Measures

The Sphere of Control Inventory is a self-report measure that aims at assessing interpersonal control (Paulhus, 1983). This scale measures control over three spheres: personal achievement, interpersonal relations, and social and political institutions. Acknowledgement is given to the self-perception of interpersonal control. The actual level of interpersonal control is thus not necessarily measured.

The Check List of Interpersonal Transactions Revised (CLOIT-R) and Check List of Psychotherapy Transactions Revised (CLOPT-R) are measures of interpersonal behaviour (Kiesler et al., 1991). These 96-item checklists, which were developed in an *American interpersonal system*, are used as self-report measures or as observation measures. These psychometric tools measure interpersonal behaviour along the continuums of control and affiliation. Control, as conceptualised by Kiesler et al. (1991), consists out of interpersonal dimensions of dominance, assurance, mistrust, competitiveness and sociability.

The development of the CLOPT-R and CLOIT-R was to establish dimensions and evaluate certain interactional processes along these specific dimensions and not necessarily with the aim to measure the interpersonal power to change and establish the nature of the relationship. As far as the current researcher could establish, no scales *specifically* measures interpersonal control as defined within this study and within the same context that this study was conducted.

As with the Sphere of Control inventory, the validity of the CLOIT-R as a self-report measure to evaluate interpersonal processes is debatable. Although the applicability and value of self-report measures is acknowledged, Raath (1984) asserted that these measures do not necessarily best explain interactional processes. Due to the length of the CLOPT-R (96 items), a rater may need substantial working memory to rate the subject on this scale. This may pose a difficulty in accurately rating the subject, especially in the light of possible cognitive biases (Mahalik, Hill, O'Grady & Thompson, 1993).

Furthermore, the applicability of a psychometrical tool in the Namibian context, that was developed in an American interpersonal system, such as the CLOPT-R and CLOIT-R, is questionable. Although there may possibly be universal interactional patterns, the interpersonal system in Namibia, with its own history and context, is likely to differ.

2.4.1.4 Critical Discussion of Intrapersonal and Interpersonal Rating Scales

The measurement of a construct is dictated by the theoretical grounding and definition of the construct used that is to be measured. General Systems Theory is suitable for understanding the works of Vorster (1977) as well as the reported

findings. Although self-report measures are used to assess interpersonal control, there are, however, no interactions taking place between the assessed and his/her environment.

Reis and Wheeler (1991) argue that self-report assessments have three potential sources of cognitive biases when assessing interactions (cited in Peeters, Buunk & Schaufeli, 1995, p. 392):

(1) [S]election of representativeness: because certain social interactions are likely to be more cognitively available than others, it is unlikely that the interactions are selected randomly, (2) [R]ecall of the content of those interactions: biases in recall can arise due to random forgetting or even motivated distortions, such as selective perception or dissonance reduction and, (3) [A]ggregation of multiple events: the way people combine social information from multiple interactions in order to create one single impression can also be responsible for biased reports.

Raath (1984) concurred with the above assertions and further stated that, in order to measure the interactions taking place among people, observation rating scales are the most appropriate form of measurement. Webster-Stratton and Herbert (1994) further argue that direct observation of behaviour is more accurate and objective as it occurs in the moment. This further allows richer information regarding behavioural styles of such a person (Earnes et al., 2008).

However, Arney (2004) cautions to use of observation rating scales as a measurement tool, as this form of measurement may be quite expensive, participants may react differently when they know that they are observed, behaviour may be limited to a few settings and the use of observations may be time-consuming.

Further criticism of observation rating scales are raised due to cognitive biases which may jeopardize the validity of the ratings made by raters. These biases include the halo-effect, central tendency and leniency errors (Huysamen, 1980). If rating scales are used by raters, sufficient training in the use of the rating scale may assist in countering for cognitive biases (Huysamen, 1980).

Although interpersonal control is measured through self-report measures (e.g. Sphere of Control), the results are produced by intrapersonal processes, such as perception (self-perception). The manner in which interactions are measured needs to be considered.

Vorster (1977) analysed the interactions of people displaying alcohol dependent behaviour through observations. These observations, in terms of interpersonal control, need to be measured. Rating scales have been used to evaluate observed behaviour. Given the theoretical framework and above arguments for the benefits and disadvantages of observation as a means of evaluating interactional patterns, observational rating scales appear to be the most appropriate form of assessing interactions. Attention needs to be given to the possible difficulties that observation rating scales may pose. Rating scales, where the interactional processes of people are observed appears best suited to measure interpersonal control.

2.5 Development of psychological measures

2.5.1 Development of psychological measures in general

Foxcroft (2005) proposed six phases to be followed in the development of a psychological measure. Although not stated formally, these steps seem to be followed by researchers to a greater or lesser degree in the development of tests. The

steps as proposed by Foxcroft (2005) are like a common thread in psychological test development found in literature.

The first phase, the planning phase, is comprised of three steps, namely the specification of the aim of the measure, defining the content of the measure and developing a test plan. This is followed by the item writing phase where the items are written and reviewed. The third phase is concerned with assembling and pre-testing of the experimental version of the measure. The items are arranged and finalized. Administration instructions are developed and the measure undergoes pre-testing. During the item analysis phase, item difficulty and discrimination values are determined. Item biases are investigated. The second last phase is concerned with the revision and standardization of the measure. During this phase, the test and item content are revised, standardized items are selected, administration and scoring procedures are revised and standardized, and the final version is compiled and administered to a sample of the target population. This allows for the last phase to commence which focuses on establishing reliability and validity, as well as setting norm tables and performance standards.

These six phases proposed by Foxcroft (2005) are reflected in the test development procedures indicated by Hogan (2003). The first step according to Hogan (2003) is to define the purpose of the psychological measure. This statement indicates the purpose of the test and should include the construct to be measured and the population that the measure is applied to. During the second step, the preliminary design receives attention. Decisions need to be made regarding the mode of administration, length, item format, number of scores, score reports and administration training. These decisions are based on the purpose that the

psychological measure is used for and the background information gathered through a literature review and discussions with practitioners in the field of interest. The item preparation follows the first two steps whereby the items are written and reviewed. This includes the stimulus to which the examinee responds, the response format, the conditions governing how responses are made and how the responses are scored. One of the most important steps during development of measures is where the items are analyzed. This is comprised of item tryout, statistical analysis and item selection. Thereafter, the psychological measure then needs to be standardized where norms are developed. During the final step, the psychological test is publicized. This allows the test developer to communicate administration instruction, scoring and interpretation, as well as technical manuals to the user.

The frameworks for the development of psychological measures as proposed by Foxcroft (2005) and Hogan (2003) appear to be similar. Although different wording is used by them, the fundamentals of the procedures that are followed seem the same. In essence, there is an initial planning phase which spills over to construction and statistical analysis, ending off with standardization and norm development. Both these development frameworks are broad in their approach and can be applied in a variety of psychological measurement construction situations.

There may be similarities in the development procedures of observational scales. However, the appropriate method for developing such a psychological measure needs to be explored and investigated.

2.5.2 Observational Rating Scales

2.5.2.1 Observation Rating Scale Development Procedures

Chung (2005, p. 6) described scaling, the process of rating someone in terms of a construct, as “the development of systematic rules and meaningful units of measurement for quantifying empirical observations.” Within this definition, the process for the development of a scale is insinuated. During the first part, the construct or unit of measurement is delineated through defining such construct. In terms of such definition, empirical observations are quantified by allocating a number to a specific set of behaviours/attributes or to what are observed.

Beaubien, Goodwin, Costar, Baker and Smith (2005) proposed a framework for developing behaviour observation scales. They asserted that this framework is applicable to different observational scale formats such as checklists, frequency counts and rating scales. According to Beaubien et al. (2005), there are 10 basic steps to develop an observational tool. The first step is to gather information about what is to be measured. This is followed by summarizing the information and to write it in behavioural statements. The third step is to categorize these behavioural statements, which is followed by classifying these into dimensions. A scale metric is then chosen, such as checklists or 5-point rating scales. Thereafter the pilot test commences where difficulties of the scale can be corrected before official use. During the seventh step the raters are trained in the use of the scale. The eighth step is concerned with organizing behavioural statements in accordance with the flow of the task. The recorded data can then be statistically analyzed where certain behavioural statements are excluded that shows little significance in the scale. Thereafter, scores can be calculated, utilized and interpreted. It needs to be noted that this framework is used to observe and quantify team performance.

Whyte and Hart (2008) described their approach to develop observational rating scales through a seven-step process. The initial step is concerned with determining the domain that will be assessed and gather the information relevant to this domain. This is done through a literature review and the consultation of clinicians. An attempt should be made to gather the full range of relevant information that need to be incorporated into the scale. During the second phase, the information gathered during the first phase needs to be transformed into scale items. The items are written clearly and in accordance with the type of rating scale that is used. The following phase focuses on the qualitative feedback where clinicians give feedback on an initial scale. Items can be re-worded, discarded and/or replaced during this phase. Thereafter, formal psychometric assessment can commence where the statistical properties of the scale are determined. The fifth phase of observation rating scale development allows for subdomains to be determined through factor analysis. This, however, is dependent on the format of rating scale that is utilized. Factor analysis may indicate underlying interrelationships among items which can be interpreted in conceptual terms. During the next phase, items that do not fit into a subdomain may be discarded or a new subdomain can be established through adding a few items. This will necessitate that previous steps are repeated. During the final phase of observation scale development, the minimum items are put together that cover the full domain and subdomains of the construct of interest

Truax and Carkhuff developed a set of interpersonal observation rating scales that received much attention (Patterson, 1984). These scales were based on the works of Carl Rogers who considered empathy, unconditional positive regard and congruence as vital ingredients in the therapeutic process (Moore, 2008a). These

interpersonal constructs were captured within the Accurate Empathy, Nonpossessive Warmth and Genuineness Scales. The scales were constructed with the aim of evaluating therapists in terms of their competence in displaying these essential therapeutic ingredients within therapy.

No formal model appears to be used for the construction of the scales developed by Truax and Carkhuff. These observer rating scales were constructed from literature and statements of Carl Rogers which grew out of a seminar as early as 1957. A general definition was given to each of these constructs. Thereafter, behavioural patterns associated with the construct were described and placed on a nine-point or five-point scale. As part of Truax and Carkhuff's (1967) scale development, they argued reliability and validity for the mentioned scales.

Each point or level of the scales has its own description of behavioural patterns associated with the construct. Here is an example of the first level on the Accurate Empathy Scale – the behavioural patterns described are associated with someone with a very low level of empathy (Truax & Carkhuff, 1967, p. 47):

“Therapist seems completely unaware of even the most conspicuous of the client's feelings; his responses are not appropriate to the mood and content of the client's statements. There is no determinable quality of empathy, and hence no accuracy whatsoever. The therapist may be bored and disinterested or actively offering advice, but he is not communicating an awareness of the client's current feelings.”

The ninth level of the Accurate Empathy Scale is an indication of someone who displays a high level of empathy and looks as follows (Truax & Carkhuff, 1967, p56):

"The therapist in this stage unerringly responds to the client's full range of feelings in their exact intensity. Without hesitation, he recognizes each emotional nuance and communicates an understanding of every deepest feeling. He is completely attuned to the client's shifting emotional content; he senses each of the client's feelings and reflects them in his words and voice. With sensitive accuracy, he expands the client's hints into a full-scale (though tentative) elaboration of feeling or experience. He shows precision both in understanding and in communication of this understanding, and expresses and experiences them without hesitancy."

Although there are some differences in the approach to observational rating scale development, there are commonalities in the construction of observation rating scales. These commonalities are also apparent in the development of psychometrical assessment tools as described by Hogan (2003) and Foxcroft (2005).

There appear to be four main phases of psychological measurement development. The first phase is concerned with the purpose of the psychological measure and the construct(s) that is to be measured. The second phase pertains to the collection of data, through literature studies and input from experts and the construction of the preliminary measurement tool. The response format is chosen and the qualitative information is fused to cover the construct(s) of concern. During the third phase, statistical analyses are done to establish reliability and validity. Depending on the format that is employed by the developer of the psychological measure, item analysis and factor analysis will take place before final reliability and validity is determined. If applicable, the psychological measure is standardized. The last phase is associated with the finalization of the norms and preparing the final

material. This includes drawing up the technical manuals and booklets with instruction specifications and interpretation guidelines if necessary.

2.5.2.2 Rating Scale Formats

The quantification of the behavioural patterns is determined by the type of observational rating scale is used, which in turn is dependent on the intended use of the scale. There are various types of observational rating scales discussed by Huysamen (1980). The checklist consisting out of dichotomous items is the simplest form of observational rating scales. The attribute or behaviour is evaluated and rated through choosing one of two possible options, e.g. yes or no, or present or absent. The Bayley-III is a checklist to quantify infant and toddler development (Bayley, 2007).

Observation rating scales with more than two categories or options are known as ordinal scales. If a person is rated with a 4 on an ordinal scale, it implies that that person is displaying less of that attribute or domain the person is rated on than someone scored with a 5. The main types of polychotomous rating scales are numerical and graphical rating scales. The difference between numerical and graphical rating scales lies in the presentation of the rating scale. With numerical rating scales, the number follows the item or attribute that is measured, e.g.

Conscientiousness

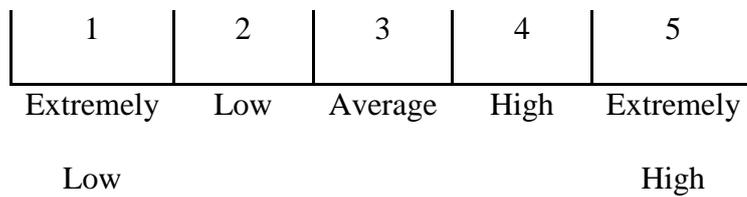
1 2 3 4 5

1	Extremely low
2	Low
3	Average
4	High

5 Extremely high

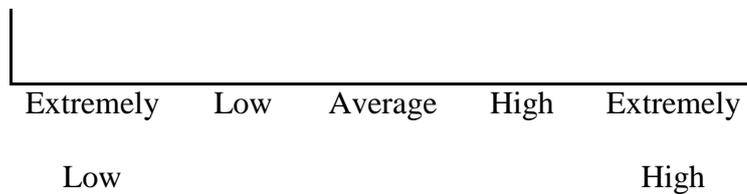
Graphical rating scales has a continues or discontinues line where the subject is rated on a specific attribute, e.g.

Conscientiousness



Or

Conscientiousness



These two types of scales are described in its simplest forms. The Delirium Observation Screening Scale is an example of an polychotomous rating scale (Schuursmans, Shortridge-Baggett & Duursma, 2003)

An elaborate description of the attribute or domain that is measured can be given at each of the ratings. For instance, the behavioural patterns of someone that is excessively conscientious may be described and put in the place of “Extremely High”. When such a description is given at each level of a rating scale, it is known

as a global behavioural anchored rating scale (Von Baeyer & Spagrud, 2007). The scales developed by Truax and Carkhuff (1967) are examples of such scales.

Blumberg, De Soto and Kuethe (1966) posed the question whether a specific scale format produces more cognitive biases than others. They concluded that scale format does not play a significant role in biases. Huysamen (1980), however, is of the opinion that global behavioural anchored rating scales improves the ratings made by raters.

2.6 Development of the Interpersonal Control Rating Scale

2.6.1 Development Process

There are various aspects that need to be considered in the development of the Interpersonal Control Rating Scale. First and foremost, the development of any psychological measure has some model that directs the process of measurement development. Bearing in mind the models that were discussed in section 2.5, a model was designed to direct the process whereby the Interpersonal Control Rating Scale can be developed. This process is demonstrated in diagram 2.8.

Step 1 was concerned with deciding upon the construct that is to be measured. The needs for a psychological measurement instrument were established and evaluated in terms of this construct. The construct, interpersonal control was defined. The definition of the construct and the theoretical framework which it is conceptualized from, directed the development of the psychological measure.

The second step was to construct the Interpersonal Control Rating Scale by making use of the literature and input from experts. The interactional patterns associated with interpersonal control, as gathered from literature, were used as

qualitative data for the construction of the Interpersonal Control Rating Scale. A preliminary Interpersonal Control Rating Scale was developed from this qualitative data. The response format used was the *global behavioural anchored rating scale* format (Huysamen, 1980).

The statistical analysis was done in Step 3. Content validity was first established. Raath (1984) suggested the involvement of current practitioners in the field of psychology in order to discuss developed scales. The feedback of these practitioners was evaluated and incorporated in order to refine the Interpersonal Control Rating Scale. Thereafter, interrater reliability and the validity of the psychological measure received attention. Raters were used to establish interrater reliability. If reliability or validity is not established, the test developer should return to Step 2 where the scale is improved for statistical analysis.

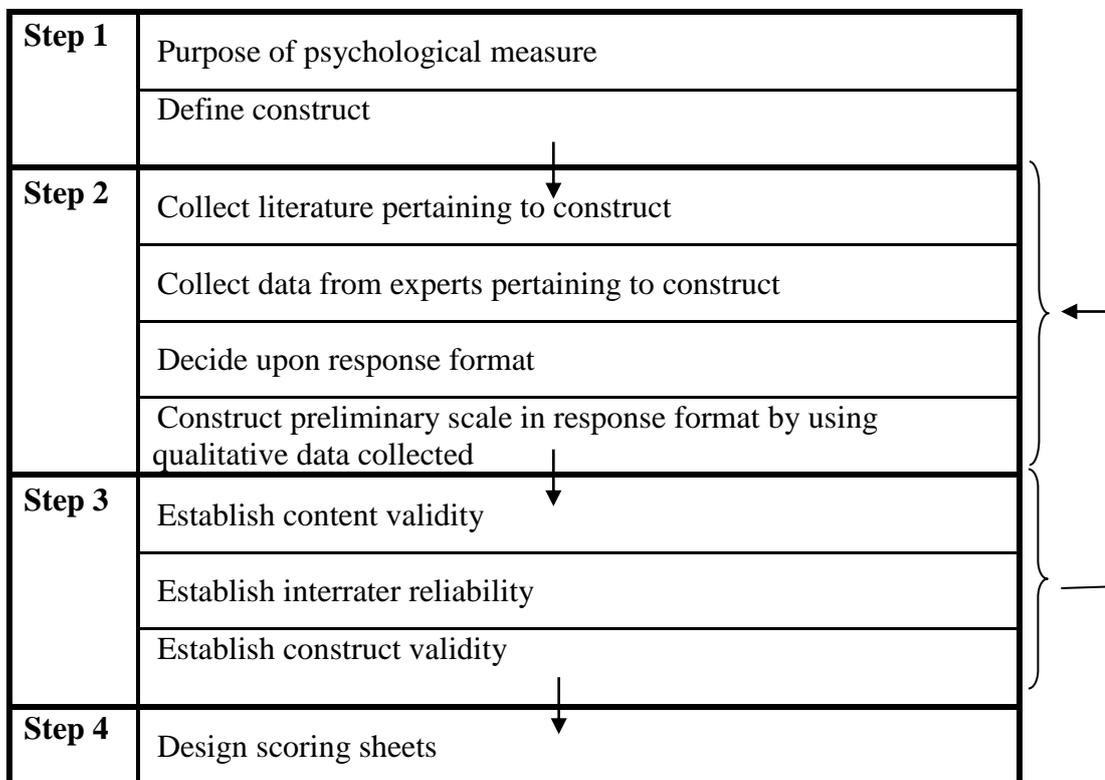


Diagram 2.8 Model for developing the Interpersonal Control Rating Scale

The last step was to record the instructions. A design was created for the scoring sheet or a page where the evaluation can be recorded on. This is attached as Appendix B for the Interpersonal Control Rating Scale.

2.6.2 Interpersonal Control

In this thesis, interpersonal control within a communication dyad is defined as the interpersonal power displayed in the dyad by participants influencing the nature of the relationship. According to Haley (2005, p. 9), “no one can avoid being involved in a struggle over the definition of his relationship with someone else.” All people are involved in attempts to define the relationship. Even through not communicating with another person, he or she is “qualifying the other person’s behaviour” (Haley 2005, p. 9). According to this, all communication, (verbal and non-verbal) is a means to establish causality (Duran, Jensen, Prisbell, & Rosoff, 1979). For instance, if a person says: “I am lost,” he or she is actually requesting another person to give him or her direction.

Some communication tactics to define a relationship are more efficient in gaining control of the relationship. Some tactics seem less efficient and people will resort to various dysfunctional behavioural patterns in order to gain some control of the relationship or to make the relationship more symmetrical in terms of control of the nature of the relationship.

Hobbs (2009) indicated that the person who has less control of the relationship is usually less expressive and more submissive in his or her interaction.

Such a person has little to no ability to assert him- or herself. This will be evident through high anxiety levels and a loss for words when communicating to others (Raath, 1984). Vorster (1977) and Hinde (1976) found that dominance, the expression of feelings, as well as direct and open communication (e.g. direct statements, direct instructions and comments qualified by a request) are associated with being more in control of the relationship.

According to Haley (2005), commenting on the behaviour of another is also a means of gaining control of a relationship. This view is supported by Schaeffer (1986) who is of the opinion that such control of the relationship can be obtained by passing judgment on another person's behaviour through persecuting, fault-finding and punishment.

Schaeffer (1986) asserted that control of a relationship can be obtained through emotional or physical abuse, anger or any form of aggressive behaviour.

A tactic that is used to have a causing effect on another person's behaviour is to control resources (Schaeffer, 1986; Smith, 1983). The control of resources refers to any form of financial resources, information (e.g. giving vague answers to questions) and control over tangibles (e.g. television). Emotional resources may also be controlled in terms of social support and interactions (e.g. choosing friends). With tight control, the person in control of the relationship will decide how resources are to be distributed and used (Schaeffer, 1986).

Vorster (1977) indicated that the person that is in control of the relationship usually lacks empathy. Empathy refers to the full understanding of the emotions of another person and the ability to reflect these emotions in its full depth (Raath, 1984). The opposite to that is being self-centred which is displayed, for example,

through own opinions being more important than others, always being right in arguments and never being at fault for mistakes (blaming and justifying) (Schaeffer, 1986). A person in control of the relationship has a high expectancy of others to change, but will show little willingness to change him- or herself (Schaeffer, 1986).

Through patronising behaviour, the person in control of the relationship defines it in such a manner that the other partner is dependent on the person displaying such behaviour. This also goes hand in hand with over-nurturance. Decisions are made by the patronising individual concerning the system, in that way defining the relationship as: “you are not able to make decisions” and “you cannot take care of yourself.”

These tactics displayed by people to obtain control of the relationship form part of the Interpersonal Control Rating Scale (see Appendix B).

2.6.3 Interpersonal Control Rating Scale

The Interpersonal Control Rating Scale took the format of a global observation rating scale and was concerned with quantifying the tactics employed by a person to gain control of the relationship. The Interpersonal Control Rating Scale was developed as a nine-point scale with level 1 indicative of the least power and level 9 of the most power displayed by a person to influence the nature of the relationship. Literature was fused into fewer content related categories pertaining to interpersonal control (Barnett-Page & Thomas, 2009). The feedback given by experts in interpersonal rating scales was incorporated. The Interpersonal Control Rating Scale follows:

Level 1

The person appears anxious and uncertain. He/she is unable to verbalize thoughts and feelings towards another person. He/she is obviously submissive in the relationship. He/she also displays extreme feelings of inferiority. He/she reflects little to no control over resources (physical and emotional). He/she is unable to make decisions on his/her own and expects others to nurture him/her.

Level 2

Inbetween Level 1 and Level 3

Level 3

Although he/she is able to express him-/herself, he/she appears somewhat uneasy and anxious. He/she seems somewhat uncertain and communicates on a personal level some of the time. Anger may be expressed verbally, but is counter-indicated by his/her non-verbal communication. He/she feels at fault or responsible for mistakes at times. He/she adjusts to the expectations of others. His/her judgement of the behaviour of others is existent, but low. He/she will not persecute and punish, but his/her judgement will mostly pertain to fault-finding, which is not communicated most of the time. He/she narrates little control of resources, perhaps in a few areas. A strong tone of submissiveness and inferiority can be detected. Although he/she enjoys making some decisions on his/her own now and then, others usually make the decisions. He/she may also enjoy some emotional and physical nurturance.

Level 4

Inbetween Level 3 and Level 5

Level 5

He/she is able to express him-/herself freely and openly with taking the feelings of others in consideration. He/she is sensitive towards the situation and will act with ease, attuned to the depth of interaction taking place. Although he/she may be passing some judgment onto others, he/she may not necessarily persecute or punish the other. He/she appears to have some insight into his/her own behaviour and its effects on others. He/she comes across as flexible. He/she is able to make decisions regarding the relationship, but is also acceptant to decisions and suggestions made by his/her partner. He/she is balanced in terms of the use of resources. Other people are seen as equal and he/she does not carry responsibility for others.

Level 6

Inbetween Level 5 and Level 7

Level 7

Being able to express him-/herself without much constraint, he/she more often than not promotes his/her own agenda. He/she may pass judgement onto others mostly through fault-finding and some verbal persecution and punishment. He/she displays moments of patronisation and dominance, mostly on a verbal level. At times, he/she is sensitive towards the emotions of others, but not really able to reflect on those emotions, especially deeper emotions of his/her partner. He/she is in control of most resources and makes most of the decisions, but will not mind if his/her partner takes

a few decisions. Being self-righteous most of the time, he/she may take only some responsibility for mistakes. He/she may change his/her mind only now and then, but will find it difficult to change his/her interactional style.

Level 8

Inbetween Level 7 and Level 9

Level 9

The person communicates openly and freely, he/she is able to speak his/her mind at all times through commands, requests, suggestions and statements. He/she disallows the other to use the same communicative patterns. He/she is always dominant in his/her interaction. Coming across as being over self-assured and assertive, he/she gives advice and direction freely with patronisation in the prevailing emotional climate. He/she has no insight into his/her own behaviour and according to him/her, he/she is blameless (blaming and justifying – does not take responsibility for mistakes). He/she is judgemental and often finds fault with his/her partner. He/she reflects having control over all resources (physical and emotional). He/she is convinced that he/she needs to take care of the other person.

One of the main interactional factors used for the evaluation of interpersonal control, is the extent to which a person is able to express himself. On Level 1, people may find it extremely difficult to express any thoughts and feelings, although it may be present. Within the interaction, such a person may appear very uncertain of himself and come across as submissive. The submissiveness, uncertainty and

anxiety are evident in the tone of voice, body language, volume of speech and the phrasing of sentences. When in conversation, a person interacting on level 1 is likely to ask permission and questions or have requests instead of demands. Someone interacting on level 3 displays some degree of verbalisation and may give account or acknowledge some feelings or thoughts. However, the body language of these people is incongruent with their verbal messages. As an example, the person may say that he is angry, but giggle about it or laugh it off as if it is not important. In contrast to level 3, a person on level 1 is not likely to express anger. Level 9 is in vast contrast with level 1 and level 3 where the interactional style of level 9 is characterized by open and free conversations. They speak their minds confidently. It is important to note that is not just volume of speech, body language, use of language or just the tone of voice that is important, but rather the combination of these as a means of establishing causality. A person interacting on a level 9 is likely to display most these interactional features. This is usually accompanied by a domineering and authoritarian style, where you are told what you should and should not do. This is in contrast with level 7, where only some of the features may be present, or a combination of all the features at a lesser degree. As an example of a level 7 interactional style in terms of expressiveness, a person may be soft spoken, but with definite and measured use of verbal and body language. These people interact with some authority and some dominance. They engage and take some initiative in conversation.

Fault-finding and taking responsibility for mistakes plays an important part in defining relationships. If a person is always right, the rules that the person establish are also considered as right within those interactions. As part of submissiveness, a

person on level 1 most of the time will feel that his actions are wrong. Such person will feel responsible and make excuses for their "wrongdoings". A person on level 3 may at times give acknowledgement to faults or mistakes of others, but will not often give voice to it. Such person is more likely to accept responsibility if something went wrong, irrespective of who is at fault. In terms of being in the wrong side, he may feel persecuted and at fault most of the time. Someone interacting on a level 7 is likely to interact with mostly fault-finding. This is usually expressed through some intimidation and at times verbal abuse. These expressions may at times, especially when provoked, include insults, swearing or foul language. A person interacting on a level 7 may not always take responsibility for mistakes. Although he may change his mind regarding some issues, he may find it difficult to change, especially when change has long-term implications. Someone interacting on a level 9 sees himself as blameless and is likely to justify his behaviour when his faults or mistakes are pointed out to him. Justifications usually coincide with blame and verbal abuse. These verbal messages are affirmed by body language, strong tone of voice and volume.

Another interactional factor associated with interpersonal control is how a person relates to others in terms of nurturance and responsibility. People who are placed within the role of being taken care of, being supported and having little say in decision-making, is scored at the lower end of the scale. Level 1, which is at the extreme of low interpersonal control, features interactions where the person does not engage in any decision-making. Such a person is used to being taken care of. As an example, when having a conversation, a person functioning on level 1 will wait for the other party to guide the conversation. Someone that functions on a level 3 will

take some decisions, but will easily be overruled or such a person may easily be convinced of alternative courses of action. Such a person may also be treated as a child some of the time, being nurtured and taken care of at times. As an example, a person on a level 3 may ask some questions, but is more likely to wait for another person to guide conversation. People interacting with patronisation are placed at the higher end of the scale. Someone is scored on level 7 when there is verbal patronisation, but is not necessarily supported by body language and activities. This is in contrast with level 9 where activities and body language supports verbal patronisation. Some examples of verbal patronisation are: “Ag shame”, “I feel sorry for you” and “Let me do this for you.” Level 9 interactions will follow such statements up with activities, such as solving certain problems for the other person with the meaning; he is not able to do it himself.

These interactional tactics that are used to gain control within relationships may be difficult to see. This may possibly be due to the relatedness of different tactics. For instance, there is an overlap between dominance and expressiveness. With sufficient training and practical exercises, interactional styles may be easier to recognise through the contrasts between different levels of the Interpersonal Control Rating Scale.

2.7 Conclusion

Alcohol dependent behaviour is a widely discussed and researched topic. This behavioural pattern affects all areas of life on individual, family and societal/community level.

Research done by Vorster (1977) has given insight into a specific relationship, the marital dyad, which is associated with alcohol dependent behaviour. Haley (2005) described a complementary interactional pattern that exists between the alcohol dependent and functional partner in terms of the control of the relationship. Although the contexts (intrapersonal variables such as personality traits) may differ for the individuals of different marital system (dyads), the interactional pattern in terms of interpersonal control seems to be the same within these intimate relationships.

A change in the level of control of the relationship displayed by the dyad partners in a system is instrumental in the alleviation of alcohol dependent behaviour. Therapy from the systemic perspective focuses on dysfunctional communicative patterns and the establishment of alternative means of interactions.

According to Kagee (2006) practitioners should base their diagnoses, prognoses and treatment alternatives on scientific data, instead of their intuition. Therapy should therefore not be based on the subjective intuition of the therapist, but, instead, therapy should rather be directed by objective techniques.

There are various self-report measures, such as personality questionnaires, that are used to evaluate behaviour. Self-perception plays an important role in these measures. There is, however, no interaction between the assessed and his/her environment. There is no flow of information/interaction that can be observed.

The measurement of interactions/interpersonal processes gives the opportunity to measure a construct, irrespective of how participants view themselves. Therefore, the most suitable manner in which to measure the interactional patterns of a person is through observations. The observational rating scale seems to be the most suitable

measurement approach to assess the interpersonal control displayed by an individual, such as a person displaying alcohol dependency. Care needs to be taken to train raters in order to minimize cognitive biases.

With various models, general and more specific to observation scale development, decisions need to be made regarding the format of the Interpersonal Control Rating Scale. The model used by Whyte and Hart (2008) have some similarities to the models proposed by Foxcroft (2005) and Hogan (2003). Whyte and Hart (2008) applied their model to the development of an observation scale. Although Truax and Carkhuff do not explicitly state a model whereby the Accurate Empathy, Unconditional Positive Regard and Genuineness Scales were developed, the same pattern for scale development were followed to a greater or lesser degree as Whyte and Hart (2008). The difference in Truax and Carkhuff's (1967) approach to scale development is due to the format of the behavioural rating scales used by them (global behavioural anchored rating scale). Based on these different models used for the development of a psychological measure, a model for the development of the Interpersonal Control Rating Scale was developed. This model was used for the development of the Interpersonal Control Rating Scale.

Interpersonal control is a complex construct with various facets. The interactional patterns associated with the level of interpersonal control a person displays has been fused into a nine-point rating scale, similar to the scales developed by Truax and Carkhuff (1967).

CHAPTER 3

METHODOLOGY

3.1 Introduction

The objective of this study is to develop a psychological measure that can accurately assess the level of interpersonal control displayed by a person. The Interpersonal Control Rating Scale was developed from literature. However, for accurate usage of this measure, the scale needed to be subjected to reliability and validity testing.

3.2 Participants

This study concerns people involved in a longstanding intimate relationship where alcohol dependency is displayed by one partner. This study included 21 participants, who were all in longstanding relationships. These 21 participants were divided into three groups consisting of seven participants each.

The first group of participants were intimate partners of people that display alcohol dependency (PAD). A convenient sampling approach was used. The reason for this is that it is difficult to get access to intimate partners of people that display alcohol dependency and therefore the first seven that were identified were selected as participants. Five of these participants formed part of the support group for Alcohol Anonymous. Two participants were patients admitted at Okonguarri Psychotherapeutic Centre. Six of these seven participants were female and one was male. The one male was between 30 and 40 years old, one female was between 41

and 50 years old, three females were between 51 and 60 years old and two females were older than 60 years of age.

Table 3.1
Description of sample

Group	Gender	Age (Years)
<u>Group 1 (PAD):</u>	1 Male	30-40
Partner of a person who display	1 Female	41-50
alcohol dependency	3 Females	51-60
	2 Female	61-70
<u>Group 2 (NAD):</u>	2 Females	30-40
Partners within a longstanding	2 Males, 2 Females	41-50
intimate relationship where alcohol	1 Female	51-60
dependency is not prevalent		
<u>Group 3 (AD):</u>	1 Male	30-40
Partners displaying alcohol	3 Males, 1 Female	41-50
dependency	1 Male, 1 Female	51-60

The second group consisted of participants who are in a longstanding relationship where alcohol dependency was not prevalent (NAD). This sample was drawn from the patient population of Okonguarri Psychotherapeutic Centre since January 2008. The databases of patients were used to identify the patients that are in a longstanding intimate relationship where alcohol dependency was not prevalent.

Seven participants were chosen from a possible 67 on a random basis. A research randomizer was used to generate the sample participants. Each possible participant was given a number. The randomizer gives an output with the seven randomly selected numbers. The selected sample consisted of four females and three males. Two females were between 30 and 40 years old, two male and two females were between 41 and 50 years old, and one female was between 51 and 60 years old.

The third group consisted of participants who displayed alcohol dependency and are involved in a longstanding intimate relationship (AD). As with the second group, all seven participants were drawn from the patient population of Okonguarri Psychotherapeutic Centre since January 2008. Each possible participant was given a number. With the research randomizer, the seven participants were selected of a possible 76 participants. Five of the participants were male and two female. One male was between 30 and 40 years old, one female and three male participants were between 40 and 50 years old, and one male and one female was between 50 and 60 years old.

3.3 Research Design

This research followed a quantitative, non-experimental comparative design. The independent variable, interpersonal control, was not manipulated during this study. This was ensured by subjecting all the participants to a non-directive interview whereby the participants projects his or her interpersonal styles within the communication dyad. Four raters were used to rate the 21 participants in terms of interpersonal control by making use of the Interpersonal Control Rating Scale.

The reliability was assessed through calculating the Intraclass Correlation Coefficient and determining the interrater reliability. In so doing, the ratings made by the four raters were compared for each of the 21 participants.

The validity of the Interpersonal Control Rating Scale was considered through ANOVA. The means of the three groups, NAD-group, AD-group and PAD-group were compared. The scale would be considered valid if the differences in the means for the three groups were found to be significantly different with the mean of the PAD-group highest and the AD-group the lowest. This would be consistent with Vorster (1977) and Haley (2005) who described a complementary relationship in terms of interpersonal control with the alcohol dependent partner displaying the least and the partner of the alcohol dependent partner displaying the most interpersonal control.

The NAD-group, where no alcohol dependency is prevalent within the dyad, was compared to the AD-group and the PAD group. It was expected that the NAD-group display significantly less interpersonal control than those of the PAD-group and significantly more interpersonal control than those participants of the AD-group.

3.4 Data Collection

Sampled participants were subjected to a non-directive interview. These interviews were video recorded. This enabled the raters to evaluate the verbal and non-verbal communication, extracting the level of interpersonal control as per measurement instrument (Appendix B).

Four raters were used for the rating purposes. These raters are all registered as practitioners with the Namibian Council for Social Work and Psychology. The

raters were trained in the use of the scale by explaining the application of the scale (Raath 1984). Thereafter, the rating of two mock participants (role play models) commenced. The ratings of the different raters were discussed openly. This allowed further clarification for the application of the scale.

When the raters felt comfortable with the use of the scale, all the recordings were given to raters to evaluate the participants individually. No discussions were allowed.

3.5 Measuring Instruments

The 21 participants of this study were exposed to a non-directive interview. The basis of the interviews, as described by the works of Carl Rogers, is only to reflect and clarify what someone has communicated (Moore, 2008a). No questions are asked during a non-directive interview. The interviewer does not steer the conversation in *any* direction through questions, suggestions or statements. The reflections and clarifications are done in a congruent, warm and empathic manner. This allows for the interviewee to give direction to the conversation. Due to the non-judgemental stance taken by the interviewer, the interviewee is able to express him- or herself freely. Through this interviewing technique, the interviewer extracts the interviewee's attitudes, feelings and interactional styles. These interviews were recorded.

Vorster (1977) regarded non-directive interviews as a valid way to observe interactional patterns. This view is also supported by Yalom (1975). The non-directive interview enables the rater to observe the participant without being

influenced by the interviewer. The non-directive interview also creates an environment for standardised interviews (Vorster, 1977).

Clinical Psychologists (registered with the Health Professions Council of Namibia) were used to rate participants. This method of recording observational data is supported by Lanza, Anderson, Satz, Stone, Kayne, Smith and Rideout (1998). The ratings were recorded on the developed Interpersonal Control Rating Scale for analysis purposes.

3.6 Statistical Analysis

The statistical analysis was concerned with establishing reliability and validity. In order to establish reliability, inter-rater reliability was used to assess the consensus of the ratings made by the raters of interpersonal control as displayed by the participants (Graziano & Raulin, 2004; Raath, 1984). This was done through calculating an intra-class correlation coefficient (ICC).

The type of ICC model that was used to analyze the ratings was determined by three considerations namely, the sources of variance, the representativeness of the raters and the definitions of the ratings. There were two sources of variance within this research, the raters and the ratees. The raters were representative of a bigger population of clinicians who were able to use the scale. Therefore, a two-way random effects model was used.

The manner in which the ratings were considered, determined the use of the two-way random effects models with either absolute agreement or consistency (Nichols, 1998). As an example, if Rater A has ratings of 1 and 3 and Rater B has ratings of 7 and 9, these ratings are consistent. The second rating is two levels higher

for both Rater A and B. The agreement in the ratings is therefore consistent. Absolute agreement implies that the ratings are exactly the same for all the raters. If Rater A has a rating of 1, a rating in absolute agreement for Rater B would also be 1. The ratings were analysed in terms of absolute agreement.

With regards to establishing validity for the Interpersonal Control Rating Scale, content validity was considered through incorporating the feedback of experts on the preliminary Interpersonal Control Rating Scale. Construct validity, the extent to which the instrument accurately measured the construct, was considered through ANOVA. The hypothesis is tested whether the means of the three groups are, statistically speaking, significantly different for the three groups, with the AD-group displaying the least and the partners of those displaying alcohol dependency the most interpersonal control. If the means were found not to be significantly different in the direction as indicated, the Interpersonal Control Rating Scale would have been considered as not a valid measure to assess interpersonal control.

3.7 Research Hypotheses

The ratings recorded by each rater for the 21 participants were used for the statistical analyzes of the Interpersonal Control Rating Scale. The following hypotheses were tested to establish the reliability and validity of the Interpersonal Control Rating Scale:

- *Research Hypothesis 1*

The inter-rater reliability among raters using the Interpersonal Control Rating Scale will be statistically significant.

- *Research Hypothesis 2*

The variance of the ratings between raters for each rater will be statistically significant on the Interpersonal Control Rating Scale.

- *Research Hypothesis 3*

The mean ratings will be statistically significant different for three groups, those that are in an intimate relationship and display alcohol dependency, partners of those that display alcohol dependency, and intimate partners where alcohol dependency is not prevalent.

3.8 Research Procedures

The research process was guided by the procedures suggested in literature pertaining to the development of assessment tools. First, the construct, interpersonal control was defined and conceptualised within a theoretical framework. From literature and data from experts within the field of interpersonal control, a preliminary Interpersonal Control Rating Scale was developed. The global behavioural anchored rating scale design was used as response format. After the development of the preliminary Interpersonal Control Scale, the process followed for establishing the statistical properties of this instrument.

The first step was to select a sample. Okonguarri Psychotherapeutic Centre, a well-known institution for treating various psychological disorders, was contacted. Permission was granted by the Chief Executive Officer to access the patient population of Okonguarri Psychotherapeutic Centre. The sample for the NAD-group and the AD-group was drawn from the patient population of Okonguarri

Psychotherapeutic Centre. Due to the limited availability of participants of the PAD-group, convenient sampling was used. Two participants of the PAD-group were admitted at Okonguarri Psychotherapeutic Centre. The head of the support structure for Alcoholic Anonymous was contacted and requested to put the researcher in touch with possible participants for the PAD-group. Due to the anonymity of the members of Alcoholic Anonymous, as well as the partners of the members, the head of the support structure contacted possible participants. A list with contact details were provided with five volunteers. Interviews for the NAD-group, two of the PAD-group and the AD-group took place at Okonguarri Psychotherapeutic Centre. The interviews for the remaining five participants of the PAD-group took place at a facility provided by Alcoholic Anonymous.

The next step involved the signing of the Form of Consent (Appendix A) and subjecting the interviewees to a non-directive interview. All the interviews were started with the opening sentence: "Shall we talk?" No direction is given through this opening sentence. After the opening sentence, the interviewer reflected on the responses given by the interviewees. These 21 interviews were video-recorded.

Four raters were trained in the use of the preliminary Interpersonal Control Rating Scale. The recorded interviews were played on a television in order for the raters to assess both the verbal and non-verbal behaviour of the interviewee. The ratings made by the raters were used for statistical analysis procedures.

3.9 Ethical Considerations

In order to protect society from unethical research practices, certain principles need to be upheld for human research. The Namibian Ministry of Health and Social

Services (2003) has stated the importance of research to be done on the basis of four ethical principles: beneficence, non-malevolence, respect for the person, and justice.

The principle of beneficence is applied through weighting the potential benefits of research with the potential risks involved (Chin, Chin & Lee, 1996). The benefit of this research lies in its therapeutic value, as well as the contribution to scientific knowledge. In terms of the risks involved, the non-directive interview as applied in data collection, is not threatening. The fundamentals of warmth, congruence and empathy, as described by Rogers (Moore, 2008a), were abided by within the non-directive interview. Well-established research showed that this interviewing technique can enhance personal stability and growth (Truax & Carkhuff, 1967).

Non-malevolence and non-maleficence are related ethical principles in terms of harm. The former means that one should not intend to do harm in research (Chin et al., 1996). Non-maleficence specifies that the consequence of research should not be harmful (Chin et al., 1996). Both these principles were upheld during this research. Due to the nature of non-directive interviewing, harmful consequences were improbable.

The ethical principle of respect refers to the autonomy (right to self-determination) of a person and the process of informed consent (Chin et al., 1996; Social Research Association, 2003). Participants had to sign a consent form, therefore acknowledging that they were informed of their rights as participants within this study. The signing of the consent form indicated that permission was given by the participants for their data to be used for analysis and for recording purposes in the form of a mini-thesis (see Appendix A). The participants were

informed of their rights to withdraw from the research at any time, that their data will be treated with confidentiality and that their data may be excluded at any time at the request of the participant. The recordings of the non-directive interviews were not to be made public. The confidentiality and privacy of participants were honoured.

The last principle, justice, refers to the fair sharing of the benefits and the burdens of the research. The benefits of this research boil down to the therapeutic value added to practice. The research did not cause much burden on people or society in terms of cost or time. After the research is done, every person (to whom this research is applicable) who has access to registered Clinical Psychologists and Psychological Counsellors may share in the benefit of this research.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

The object of this research was to investigate the persons (elements) within a relationship (co-habituating partners) and to develop a scale that can measure the power with which a person influences the nature of the relationship. The focus was on who is in control of the interactions taking place between the functional and the alcohol dependent partner and what manoeuvres are taking place in order to gain control of the interactions between these. The essence of the developed scale was an effort to quantify the relative difference between individuals on the opposite poles of a complementary relationship where one partner displays alcohol dependency.

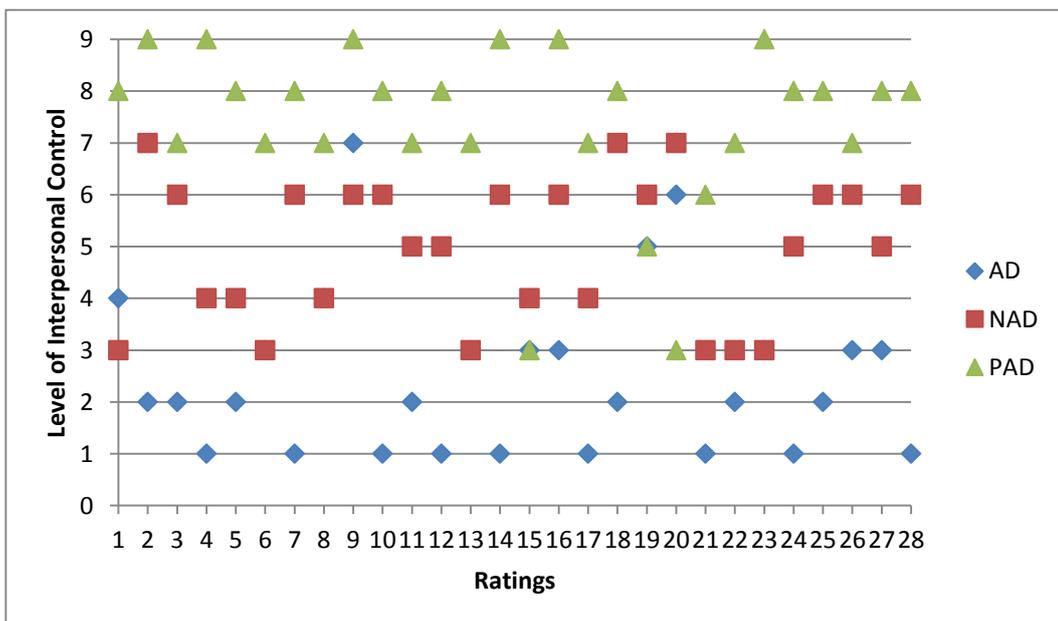
4.2 Interpersonal Control Ratings

Based on the Interpersonal Control Rating Scale, four raters rated each of the 21 participants. The ratings are presented in Table 4.1. These ratings were used as basis for the assessment of the reliability and validity of the scale.

The ratees are divided into three groups, the alcohol dependent group (AD), the partners of those displaying alcohol dependency (PAD) and the group where alcohol dependency is not prevalent within the relationship (NAD). The AD-group consisted of Ratees 2, 3, 7, 9, 10, 11 and 14. The PAD-group consisted of Ratees 1, 8, 16, 17, 18, 20 and 21. The NAD-group consisted of Ratees 4, 5, 6, 12, 13, 15, 19.

Table 4.1
Rater's ratings for rates

	Rater 1	Rater 2	Rater 3	Rater 4
Ratee 1	8	7	3	7
Ratee 2	2	3	4	4
Ratee 3	3	3	7	2
Ratee 4	3	4	4	3
Ratee 5	7	6	6	3
Ratee 6	6	6	4	5
Ratee 7	1	1	1	2
Ratee 8	9	9	9	9
Ratee 9	2	2	2	1
Ratee 10	3	5	1	2
Ratee 11	3	6	3	3
Ratee 12	4	5	7	6
Ratee 13	4	5	6	6
Ratee 14	1	1	1	1
Ratee 15	3	3	7	5
Ratee 16	7	8	7	8
Ratee 17	9	7	8	8
Ratee 18	8	8	5	7
Ratee 19	6	6	3	6
Ratee 20	7	7	3	8
Ratee 21	8	9	6	8



Graph 4.1 Scatter-plot for all ratings

Graph 4.1 indicates the ratings for the individual ratees within a certain group. Most of the ratings for the NAD-group appear to the middle part of the graph and for the AD-group, the ratings appear to the lower end. The ratings for the PAD-group appear to be on the higher end of the graph. This seems in line with Haley (2005) who described a complementary relationship between alcohol dependent and his or her partner, with the alcohol dependent displaying little interpersonal control and the partner functioning at a high level of interpersonal control.

It appears that some of the ratings for the PAD-group appear much lower than the other ratings of this group. The same with the ratings for the AD-group, where most of the ratings are low with some of the ratings appear on the high end. With these outfalls, the question needs to be asked about the reason for some of the ratings to be out of sync with the other ratings of the same group participants.

4.3 Reliability of Interpersonal Control Rating Scale

Research Hypothesis 1

The inter-rater reliability among raters using the Interpersonal Control Rating Scale will be statistically significant.

In order to develop a scale that can measure interpersonal control, the reliability of this instrument needed to be assessed. Reliability refers to the consistency with which the Interpersonal Control Rating Scale measures interpersonal control.

To determine the consistency of the measurements on the Interpersonal Control Rating Scale, the quantified observations of interpersonal control was analysed. The interpersonal control was quantified through the rating that each rater allocated to each ratee. Therefore, each of the 21 ratees had four ratings. These ratings were based on the observed interpersonal control.

The consistency with which the Interpersonal Control Rating Scale measures interpersonal control was evaluated through the calculation of the Intraclass Correlation Coefficient (ICC). The SPSS Version 21.0 was used for analysis purposes.

Table 4.2
Intraclass Correlation Coefficients for Single and Average Measures (N=21)

	Intraclass Correlation	95% Confidence Interval		df1	df2	Sig.
		Lower Bound	Upper Bound			
Single Measures	0.713	0.538	0.854	20	60	.000
Average Measures	0.909	0.823	0.959	20	60	.000

$p \leq 0.05$

The reliability of the scale is determined by the consensus of the ratings among the raters for each individual ratee. If an ICC of 1.0 is reached, it means that the ratings for every ratee were in absolute agreement among the raters (e.g. all four ratings are Level 1 for participant 1, all four ratings are Level 9 for participant 2). The two coefficients of interest are the Single Measures ICC and the Average Measures ICC.

The Average Measures ICC is the measurement of the reliability of the scale based on the mean of the ratings by the raters for each ratee. The Average Measures Intra-class Coefficient is 0.909, which was found to be statistically significant ($p < 0.05$).

When the Average Measures ICC is used, 95 out of a 100 means of ratings will fall into the range for the correlation coefficients of 0.823 and 0.959. The Confidence Interval range is fairly small which may be indicative of a reliable scale to measure interpersonal control when four raters are used.

Within a clinical setting, the clinician will make the rating by him-/herself. Therefore, the Single Measures ICC is actually of greater importance. The Single Measures ICC is used to assess whether the ratings of one judge are apt to be the same as for another judge. This correlation coefficient is 0.713, as indicated in Table 4.2, and was found to be statistically significant. Furthermore, in 95 of a 100 ratings, the Single Measures ICC will not be lower than 0.538 or higher than 0.854.

It was hypothesised that the inter-rater reliability among raters, using the Interpersonal Control Rating Scale, is statistically significant. This hypothesis is accepted.

Research Hypothesis 2

The variance of the ratings between raters for each ratee will be statistically significant on the Interpersonal Control Rating Scale.

The variance between ratings by the four raters for each individual ratee was calculated by making use of the F-statistics. The F-ratio is calculated by the Mean Square Between Items divided by Mean Square Residual. With reference to Table 4.3, the F-ratio of 0.838 was found to be non-significant ($p > .05$). The ratings made by the four raters did not provide significant statistical variance for the 21 ratees.

Therefore, the hypothesis is rejected that the variance of the ratings between raters for each ratee is statistically significant on the Interpersonal Control Rating Scale.

Table 4.3
Variance of Ratings by Four Raters for each Ratee (N=84)

	Sum of Squares	df	Mean Square	F	Sig
Between People	403.810	20	20.190		
Within People					
Between Items	4.67	3	1.556	0.838	0.478
Residual	111.3	60	1.856		
Total	116	63	1.841		
Total	519.81	83	6.263		

$p \leq 0.05$

Based on the findings as suggested by the F-ratio and ICC for Single Measures, it can be assumed that the ratings made by the raters for each ratee showed sufficient homogeneity. Therefore, statistical significant reliability for the Interpersonal Control Rating Scale was established. Statistical significant reliability means that the Interpersonal Control Rating Scale will measure interpersonal control consistently.

4.4 Inter-rater Correlations

In Table 4.4, the inter-rater correlations assess the correlation or the agreement in the ratings made by two raters at a time. There seems to be concordance between Rater 1, Rater 2 and Rater 4. As indicated in Table 4.4, there seems to be less concordance between Rater 3 and the other raters.

Table 4.4
Correlation Coefficients of two Raters at a time (N=21)

	Rater1	Rater2	Rater3	Rater4
Rater1	1.000	0.919	0.542	0.850
Rater2	0.919	1.000	0.496	0.841
Rater3	0.542	0.496	1.000	0.602
Rater4	0.850	0.841	0.602	1.000

If the ratings made by Rater 3 were disregarded, the reliability of the Interpersonal Control Rating Scale transpires as follows:

Table 4.5
Intraclass Correlation Coefficients for Single and Average Measures, excluding Rater3 (N=21)

	Intraclass Correlation	95% Confidence Interval		df1	df2	Sig.
		Lower Bound	Upper Bound			
Single Measures	0.868	0.753	0.939	20	40	.000
Average Measures	0.952	0.901	0.979	20	40	.000

$p \leq 0.05$

As expected, there is an increase in the reliability of the measure if the ratings made by Rater 3 are disregarded as there seems to be least concordance between Rater 3 and the other three raters. For single measures, the ICC has increased from 0.713 to 0.868 and for average measures, the ICC has increased from 0.909 to 0.952.

The question needs to be asked why the ratings of one rater differ from the others. From Graph 4.1, it was indicated that some of the single ratings fall out of range with other ratings of the same group. The reason for the outfalls, mostly due to ratings made by Rater 3, may be that the rater focused more on certain aspects of interpersonal control than on other aspects within the levels as indicated in scale. It may also be that Rater 3 did not have a full understanding of interpersonal control and was therefore not trained sufficiently.

4.5 Validity of Interpersonal Control Rating Scale

Research Hypothesis 3

The mean ratings will be statistically significant different for three groups, those that are in an intimate relationship and display alcohol dependency, partners of those that display alcohol dependency and intimate partners where alcohol dependency is not prevalent.

The Interpersonal Control Rating Scale was considered to be showing validity if the ratings corresponded with the study done by Vorster (1977) regarding alcohol dependency. Vorster (1977) found that a *complementary* relationship exists between the partner displaying alcohol dependency and the partner not displaying alcohol dependency. The latter displaying a high level of interpersonal control and the former displaying little interpersonal control.

In order to consider the validity of the Interpersonal Control Rating Scale, the means of the ratings of the three groups (partners of someone displaying alcohol dependency (PAD), partners displaying alcohol dependency (AD) and the subjects who were in a relationship where alcohol dependency did not prevail (NAD) were compared. The sample consisted out of seven subjects within each group.

The mean ratings of the PAD-group was calculated as 7.393, the AD-group as 2.5 and the NAD-group as 4.964. The question was posed as to whether the differences of means are statistically significant. The One-way Anova was calculated to determine the statistical significance of the differences of the means of the three different groups.

One of the assumptions of the One-way Anova is that the variances of the dependent variables need to be the same. In order to assess the homogeneity of the variances of the three groups, the statistical significance of the Levene statistic is calculated. Levene's test is testing the hypothesis that there is statistically significant difference in the variances of the three groups, the NAD-group, AD-group and PAD-group.

Table 4.6
Levene's Test (N=84)

Levene Statistic	df1	df2	Sig.
.073	2	81	.930

$p \leq 0.05$

The Levene's statistic is not statistically significant, $p > 0.05$. Therefore, the variances of the three groups are not meaningfully different. The assumption of homogeneity of the variances is tested and found *not* to be violated. Thus, the One-way Anova is suitable to assess the differences in the means of the three groups.

The One-way Anova was performed and the results were tabulated as follow:

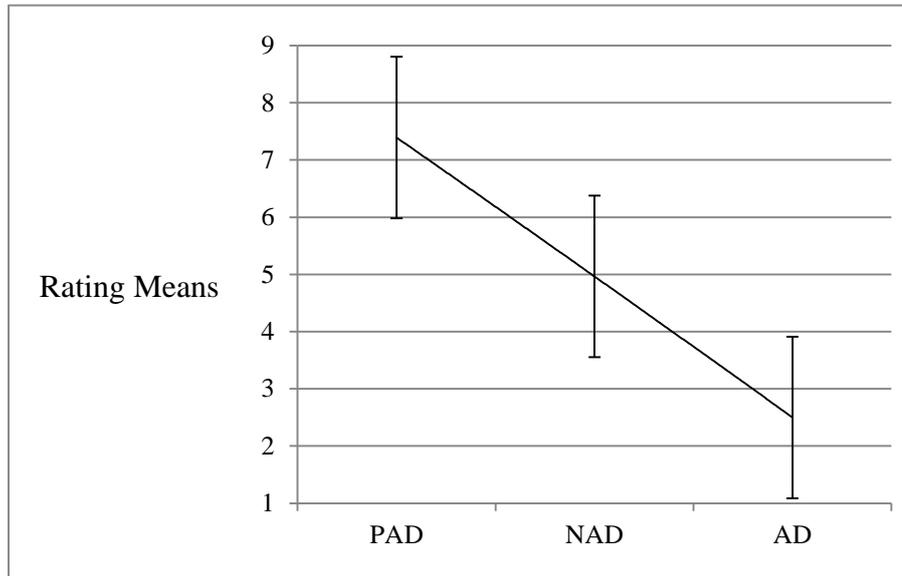
Table 4.7
One-way ANOVA (N=84)

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	335.167	2	167.583	73.516	.000
Within Groups	184.643	81	2.280		
Total	519.810	83			

$p \leq 0.05$

In Table 4.7, the difference of the means is statistically significant for interpersonal control among the three groups, namely the NAD-group, the PAD-

group and the AD-group, $F(2, 81) = 73.516, p < .05$. Therefore, hypothesis 3 is accepted.



Graph 4.2 Means for the different groups related to alcohol dependency

With reference to graph 4.2, the mean of the interpersonal control is highest for the PAD-group and the lowest for the AD-group. This seems to be agreement with Haley (2005) and Vorster (1977) regarding interpersonal control and alcohol dependency. Bearing in mind that the means of the interpersonal control is significantly different, those that display alcohol dependency, therefore, scored on average significantly lower on the Interpersonal Control Rating Scale than those of the PAD-group and the NAD-group. Similarly, partners of people that display alcohol dependency scored significantly higher on average than those of the AD-group and NAD-group. This suggests that validity for the Interpersonal Control Rating Scale has been established.

4.6 Norms

One of the steps in the development of any measure is how the raw score needs to be evaluated and reported on. This depends on the type of measure that is developed.

When an individual's raw score (e.g. the score of a person's IQ) is evaluated in terms of the individual's relative position compared to a reference group, the raw score is converted to a "normal score through statistical transformation" (Wolfaardt & Roodt, 2005, p. 39). The emphasis of norms is the comparison of a score to the reference group.

The Interpersonal Control Rating Scale is a nine-point scale. Each level on the Interpersonal Control Rating Scale represents a specific description of the interpersonal control that a person displays. Therefore, due to the nature of the Interpersonal Control Rating Scale, no conversion of the raw scores, as obtained on this scale, should be converted to a norm-related score.

4.7 Discussion

All people form part of systems. Some people form part of a system defined as an intimate relationship. Each of these systems consists of two elements (intimate partners).

Due to the differences that exist between the partners, there is a flow of information or feedback from the one partner to the other. The organisation and structure of this system, which determines the feedback or interactions taking place, is of a complementary nature in terms of interpersonal control. The alcohol dependent partner displaying less interpersonal control and the partner displaying

more interpersonal control. Those that display high levels of interpersonal control are more effective in changing the nature of the relationship. They display more powerful manoeuvres to change the organisation and feedback patterns within the system.

According to Haley (2005), both partners manoeuvre to change the nature of their relationship through their communication with one another. Some communication tactics have a stronger effect in terms of influencing the nature of the relationship than others. Some of these tactics include expression without restraint, blaming and judgmental communication patterns, advice-giving and communicating opinions on a regular basis, as well as taking care of others and controlling resources (e.g. information, emotional, tangible). Some tactics employed by people have very little effect in terms of influencing the nature of the relationship. These tactics include communication styles marked with anxiousness and uncertainty, difficulty expressing and verbalizing thoughts, feelings and attitudes, as well as an inability to manoeuvre for resources.

When one partner, who has little interpersonal control, desires more interpersonal control, alcohol becomes a means to influence the nature of the relationship. The alcohol dependent person gains interpersonal control through the continual use of alcohol. This is achieved on two levels. Firstly, being intoxicated decreases the person's inhibition levels. The intoxicated person becomes more expressive and communicates thoughts and feelings openly and candidly. Secondly, it limits the behavioural patterns of the partner, even when the alcohol dependent person does not use alcohol. The person that displayed alcohol dependency communicates that if his or her partner does this or that, the alcohol dependent

partner will start using alcohol again. Therefore, the alcohol dependent partner changes what interactions are allowed and not allowed within their communication dyad. Alcohol becomes a powerful means to influence the nature of the relationship.

Kagee (2006) indicated that the treatment of pathology, such as alcohol dependency, needs a scientific basis and should not be considered on the subjective experiences and intuition of the clinician. With the developed Interpersonal Control Rating Scale, this problem is addressed directly. This scale assists the clinician to assess interpersonal control objectively.

Various models have been proposed to guide the process for the development of psychological measurement instruments. The model being used for such a process is dependent on the construct being measured, as well as the theoretical framework that this construct is conceptualised from. The model used for the development of the Interpersonal Control Rating Scale was based on literature and previous models used for the development of assessment tools of interpersonal constructs.

The Development of the Interpersonal Control Rating Scale comprised of four basic steps. The first step was to define the construct. The second step followed with collecting data from experts and literature pertaining to interpersonal control. This data was used to construct the preliminary Interpersonal Control Rating Scale. The third step was concerned with establishing the statistical properties of this measuring instrument. Once statistical significant reliability and validity was determined, the scoring sheets were designed for the instrument to be used.

Chan (2003) stated that alcohol dependency cannot be understood as a problem that resides within individuals, but rather, as existing in the context of larger systems, such as the marital system. Interpersonal control, as a maintenance factor

of alcohol dependency within an intimate relationship, is best conceptualised through General Systems Theory. The organisation of the system under study (alcohol dependent partner and the functional partner) is of such a nature that consensus is not reached within the system regarding interpersonal control. Certain interactional patterns are quite effective in gaining much interpersonal control, whereas others interactional patterns are less effective in gaining interpersonal control.

Observation rating scales are the most suitable form of psychological assessment tools to measure these interactional patterns. Huysamen (1980) suggested that global behavioural anchored rating scales improve the accuracy of measurement. Therefore, this format of observational assessment tool was employed to develop the Interpersonal Control Rating Scale.

A nine-point rating scale was developed from literature. The reliability and validity were established to determine whether the scale can be employed by practitioners. To determine the reliability of the Interpersonal Control Scale, the inter-rater reliability was calculated with the intraclass correlation coefficient. The ICC was found to be statistical significant. This means that there was sufficient consensus among the raters regarding the interpersonal control displayed by a person. The variance of the ratings for each individual ratee has also been calculated to assess if there is statistical significant variance of the ratings for each ratee. The variance was found not to be statistically significant. This implies that there is sufficient consensus in the ratings by the raters for each ratee. Based on these statistics, it is concluded that the ratings by the raters shows sufficient homogeneity for each ratee. Therefore, the Interpersonal Control Rating Scale will consistently yield ratings to measure the construct that it is measuring. To determine whether the

Interpersonal Control Rating Scale measures interpersonal control as conceptualized by Vorster (1977) and Haley (2005) the ratings for the three groups had to be considered. The differences in the means of the NAD-group, AD-group and PAD-group was statistically significant, with the PAD-group having the highest mean ratings and the AD-group having the lowest mean ratings. This is in concordance with Vorster (1977) and Haley's (2005) description of a complementary relationship within the marital dyad in terms of interpersonal control, where the alcohol dependent person is having less and the functional partner having more interpersonal control.

Due to the complementary relationship between the functional partner and the alcohol dependent partner, the alcohol dependency is maintained. Achieving a more symmetrical relationship, between the alcohol dependent partner and his or her intimate partner, in terms of interpersonal control, the alcohol dependency may lose its function, which is to gain interpersonal control (Vorster, 1977).

The manner in which a more symmetrical relationship is achieved in terms of interpersonal control, need to be a carefully considered process. Input to this system should be of such that the input is incorporated to the functioning of the system and that the current equilibrium is not threatened. If the change is more than the system can handle, if the system fails to incorporate the new input, it will move in a state of chaos. The end-result cannot be determined. This system, the intimate relationship, may be defined differently, e.g. divorce.

The Interpersonal Control Rating Scale can be used to assist the clinician in the therapeutic process. For instance, if the alcohol dependent partner is functioning on a level 1 on the Interpersonal Control Rating Scale, the clinician can maybe aim

to achieve a level 3 or level 4 functioning in terms of interpersonal control. The functional partner interacting on a level 8 or level 9 according to the Interpersonal Control Rating Scale, can be assisted to function at a level 6 or level 7. By using the scale, the clinician does not rely on subjective experiences or intuition in the therapeutic process, but rather on scientific data. Therefore, a change in interpersonal control, as a maintenance factor in alcohol dependency, will bring about change in the alcohol dependent behaviour.

4.8 Conclusion

This research aimed at developing a reliable and valid measure of interpersonal control as a maintenance factor in alcohol dependent behaviour. Using literature and the expertise of clinical psychologists, an Interpersonal Control Rating Scale was achieved with content validity (Appendix B).

For the scale to adhere to the technical standards, the reliability and statistical validity of the scale needed to be established. This was carried out in two steps. Firstly, raters were used to rate individuals in terms of interpersonal control. The ratings, which were done on the nine-point Interpersonal Control Rating Scale, were based on a non-directive interview. The second step was concerned with the statistical analysis of the ratings which were based on the Interpersonal Control Rating Scale.

Statistically significant interrater reliability was established in respect of this scale. In addition to this, the variance of the ratings made by the four raters for each ratee was not statistically significant. This indicates that the ratings display sufficient

homogeneity. Based on these two statistics, the Interpersonal Control Rating Scale is considered as a reliable measurement tool.

The participants displaying alcohol dependency scored low on the Interpersonal Control Rating Scale. The participants that are the partners of people displaying alcohol dependency scored high on the Interpersonal Control Rating Scale. On average the difference between the ratings of those that display alcohol dependency and those that are partners of people displaying alcohol dependency is meaningful. This seems to be in line with both Haley (2005) and Vorster (1977) who described a complementary relationship in terms of interpersonal control within the dyad where alcohol dependency is prevalent.

Those that are in a longstanding intimate relationship where alcohol dependency is not prevalent scored on average higher than those exhibiting alcohol dependency and lower than those partners of people displaying alcohol dependency. These differences are statistically meaningful.

With the validity and reliability indicated for The Interpersonal Control Rating Scale, this scale does appear to have evaluation capability in terms of measuring interpersonal control. This scale can assist the clinician in the therapeutic process, which is then based on empirical data, rather than intuitive processes.

CHAPTER 5

CONCLUSION

5.1 Introduction

Alcohol dependency is a worldwide phenomenon. Based on a survey that detects the early stage of alcohol dependency, it was evident that alcohol dependency may be quite apparent in Namibia. The World Health Organisation (2004) has also indicated that alcohol is the main substance of abuse in Namibia.

The risks of alcohol dependency stretches further than just the physical complications such as certain types of cancers, liver cirrhosis, and cardiovascular diseases. Alcohol dependency seems to be a causative factor in certain mental illnesses, such as certain mood and anxiety disorders, persisting amnesia, psychosis and delirium. Other effects of alcohol dependency stretch into families (e.g. family violence, change in family structure), the work environment (e.g. lower productivity, getting suspended or fired) and societies (e.g. crime).

5.2 Researching Alcohol Dependency

Chan (2003) argue that interpersonal dynamics and communication processes within the family relationships establish or maintain addictive behaviour such as alcohol dependency. A study done by Vorster (1977) examined alcohol dependency from a relationship perspective. Through an interactional analysis, which falls within the interpersonal framework, Vorster (1977) and Haley (2005) described a complementary relationship in terms of interpersonal control within a marital dyad where the one partner displays alcohol dependent behaviour.

This phenomenon was explained within the context of General Systems Theory and Control Theory (branch from General Systems Theory.) Treatment, from the interpersonal perspective, addresses alcohol dependency through changing the interactional patterns (Chan, 2003). According to Salsman (2005), research has supported that change in interpersonal patterns is related to the reduction of symptoms. Copello, Velleman and Templeton (2005) asserted that improved marital relations may contribute to reduce alcohol problems. Change of interactional patterns within the relationship where alcohol dependency prevails may bring minimal reorganization, whereas in some relationships it may bring structural organization change of the dyad. Roles may shift and the partners' shared values and belief systems are changed (Adelson, 2010).

From a general systems perspective, the *history* and *context* of the clinician may influence the therapeutic process. Kagee (2006) raised a serious concern regarding the basis of psychological interventions. He asserts that therapy should not be based on intuition, but should instead be supported by scientific data (Kagee, 2006).

In addition to the concerns raised by Kagee (2006), the seriousness of the effects of alcohol dependency reinforces the importance of adding knowledge to the existing body of literature. This may improve the effectiveness of treatment, as well as the quality of the process. This is especially important in a third-world country such as Namibia where the funding for treatment is limited at times.

In this thesis, an Interpersonal Control Rating Scale was developed in order to assist the clinician in the therapeutic process. Due to the nature of the scale, rather quick screening can be done to assess the level of interpersonal control that the client

displays. Therapeutic strategies can be developed accordingly. A change in the level of interpersonal control, as a maintaining factor in alcohol dependency, may address the problem of alcohol dependency within the marital dyad.

5.3 Research Objective, Research Questions and Research Answers

Based on the research problem and the justification for this research, the following research objective was stated:

To develop a reliable and valid Interpersonal Control Rating Scale which will assist the clinician in the assessment of interpersonal control as a maintenance factor in alcohol dependency.

This research objective prompted the following research questions:

Research Question 1: *What interactional patterns are considered as a valid representation of interpersonal control?*

Using General Systems Theory as a basis for this research, the interaction in terms of interpersonal control was quantified. A nine-point scale was developed to measure interpersonal control. Level 1 on the scale is indicative of the least interpersonal control displayed by a person, whereas Level 9 indicates the highest level of interpersonal control that a person can display.

The interactional styles extracted from literature that are associated with interpersonal control were, amongst others, assertive and domineering interactions, control of resources, nurturance, patronising behaviour, passing judgement on another's behaviour, as well as self-righteous and self-centred behaviour. The Interpersonal Control Rating Scale, as presented in Appendix B, is supported by

experts of interactional analyses in the field of clinical psychology. Content-validity was established for this scale.

Research Question 2: *Can a newly developed Interpersonal Control Rating Scale reliably measure interpersonal control?*

The Interpersonal Control Rating Scale was found to have significant statistical reliability. The two statistics, Intraclass Correlation Coefficient (ICC) and Analysis of Variance, were used for the analysis of the reliability of the developed scale.

The ICC is a measure of the consensus of the ratings made by the raters. The individual measures ICC indicates whether the rating of one rater is apt for another rater. The ICC Single Measures was indicated as statistically significant. In terms of the definition of the reliability of a measure, the Interpersonal Control Rating Scale yielded consistent measurement.

The Analysis of Variance establishes whether there is significant variability in terms of the ratings made by the raters for each ratee. The variance was found not to be statistically significant. In other words, there is not statistically significant difference in the ratings made by the raters for the individual ratees when evaluating interpersonal control with this scale. This implies that the Interpersonal Control Rating Scale yielded consistent measurement.

Based on these two statistics, it was established that the Interpersonal Control Rating Scale can be regarded as reliable.

Research Question 3: *Can a newly developed Interpersonal Control Rating Scale validly measure interpersonal control?*

The answer to this question was found in by doing a validity analysis. The ratings were compared of those that are in a relationship and exhibited alcohol dependency, those having a partner that displays alcohol dependency and those that are part of a relationship where alcohol dependency is not prevalent. An ANOVA was used to assess the statistical significance of the differences of the means of ratings for the three groups. The mean ratings for those exhibiting alcohol dependency were found to be statistically significant less than the mean ratings of the other two groups. Those that are partners of people exhibiting alcohol dependency had statistically significant higher ratings on the Interpersonal Control Rating Scale than the other two groups. This is in agreement with the qualitative study done by Vorster (1977) and descriptions of Haley (2005) who explain a complementary relationship in terms of interpersonal control between the functional partner and the partner displaying alcohol dependency, with the functional partner displaying high levels and the alcohol dependent low levels of interpersonal control. Thus, the Interpersonal Control Rating Scale can differentiate between different levels of interpersonal control displayed by intimate partners.

5.4 Implications of this Study

The implications of this study can be divided in terms of the academic and the practical significance.

5.4.1 Academic Significance

Firstly, an attempt was made with this research to contribute to the clinician's understanding of the treatment of alcohol dependent behaviour. This was done by adding to the current knowledge base regarding this behaviour.

Secondly, this research established significant reliability for the Interpersonal Control Rating Scale. The current scale, with reliability and validity being established, serves as a building block for further research.

5.4.2 Practical Significance

Copello et al. (2005) is of the opinion that a change within the marital relationship may bring change to alcohol dependency. The Interpersonal Control Rating Scale serves two basic functions. Firstly, the scale can be used as a tool for the assessment of the amount of interpersonal control a person is exhibiting. The clinician will be able to plan the treatment accordingly.

Secondly, the scale can be used during follow-up sessions in order to establish the possibility of relapse. As an example, a person that has been sober for some time is measured on Level 5 at the time that therapy was terminated. At a follow-up session he/she scores on a Level 2 or Level 3. This may then indicate the possibility of a relapse. This measurement tool will bring objectivity and research-based interventions to the therapeutic process.

5.5 Limitations

5.5.1 Theoretical Limitations

Due to the framework within which this study was conducted, the focus was only on the interaction between the alcohol dependent and the functional partner. The current study does not necessarily explain and provide all solutions to alcohol dependency, but merely adds to the existing knowledge regarding alcohol dependency.

This research mainly pertained to the interactions within an intimate relationship. However, alcohol dependency is also prevalent among people not being in an intimate relationship. Further studies need to be done about the applicability of the interpersonal scale in other contexts such as the interactions between a child and parent, employee and employer, between colleagues and others.

Richardson and Midgley (2007) argue that it is difficult for one element of a soft system (a person) to observe the interactions within the system as a whole due to the complexity of human systems. Furthermore, people within systems also have their own history and context, which contributes to what interactions take place between the person and his or her environment. The subjectivity and historical characteristics of systems prompt two questions regarding the theoretical validity of this study:

Firstly, to what extent was this research influenced by the history, context and subjectivity of the researcher? This research cannot be disconnected from the researcher's own context. The subjective experiences and context of the researcher was countered through the utilisation of literature and academic experts.

Secondly, can complicated interactional patterns, such as interpersonal control, be fully explained through an objective measurement tool (Interpersonal Control Rating Scale)? Although the current Interpersonal Control Rating Scale has shown statistical meaningful properties, the question is whether this scale can fully account for interpersonal control. This being said, the development of the Interpersonal Control Rating Scale is certainly a contribution in the understanding of this complex interactional factor.

The participant sample was relatively small. Although meaningful reliability and validity has been established, the question remains as to what extent the use of the scale can be generalized. Therefore, the scale should be subjected to a larger sample.

5.5.2 Practical Limitations

In order to determine the reliability and validity of the Interpersonal Control Rating Scale, the raters that were used for this study had to be trained in the use of the scale. Therefore, the scale should only be employed by a clinician after a training session. Relying on the ethical standards upheld by Clinical Psychologists, they will have to await training to apply the scale in a clinical setting.

As indicated within this thesis, alcohol dependency is maintained within a relationship. Due to the financial constraints imposed by medical insurance companies, the question is whether these constraints impose limitations regarding the treatment of alcohol dependency. For instance, can a *couple* be admitted to a psychiatric hospital or do medical aids limit such undertakings. The use of the scale can therefore possibly be extended to only the person displaying alcohol dependency.

5.6 Further possible research

One of the major contributions of this study is that the development of the Interpersonal Control Rating Scale enables further research. Further research will increase the knowledge base regarding alcohol dependency and the treatment thereof.

The following are possible researches that can emanate from this study:

- The applicability of this scale needs to be assessed in terms of people displaying alcohol dependency together with DSM-IV Axis II disorders, for example personality disorders.
- In certain communities, such as the farm working communities, many farm workers exhibit alcohol dependency. The “dop-stelsel” carried much blame. The question, however, is whether farm workers are not possibly in a complementary relationship in terms of interpersonal control with their employer, the farmer. The farmer may, for instance, be in control of the relationships with his/her workers. However, if the farm worker is intoxicated on a Monday morning, he/she cannot work, thus gaining control in the relationship. This research may assist change within these communities in terms of addressing alcohol dependency and the effects thereof on the families within these communities.
- Within Alcoholic Anonymous (well-known self-help group), the person that displayed alcohol dependency learns to accept that he/she needs to submit to a higher power. This may lead to two possible studies. Firstly, the role of religion and the struggle for control with a higher power can be investigated. Secondly, how being submissive towards a higher power influences the

interactional styles of the alcohol dependent person with his/her partner, as well as the acceptance of the level of interpersonal control that the alcohol dependent individual displays.

- The applicability of the Interpersonal Control Rating Scale to other forms of pathology or dysfunctional communicative patterns within families or communities can be investigated. Such pathologies may include Mood Disorders, Anxiety Disorders, and Psychotic Disorders.

5.7 Concluding Comment

The focus of this study was, firstly, to add to a vast body of literature related to alcohol dependency. The current research, as well as the follow-up research based on this study, will hopefully improve the quality of life of those that are displaying alcohol dependency, as well as the quality of life of their partners.

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Appendix A

Form of Consent

I, _____, hereby give permission to be subjected to research and that all data provided may be used for academic purposes, with the understanding that all data captured will be kept confidential. I am herewith informed that I have the right to withdraw the data provided by me at any stage until the research is handed in for examination purposes.

Signature

Appendix B

INTERPERSONAL CONTROL RATING SCALE

Instructions

The scale is used to measure the interactional patterns of people based on the communication or transfer of information between them. The tactics to define relationships or to give direction as to the rules of the interaction (obtain control of relationships) are displayed through verbal as well as non-verbal communication. The observation of the non-verbal and verbal communication, as applied through control tactics, will qualify the level of control of the relationship.

The interactional patterns of the client are observed through a non-directive interview as developed by Rogers (Moore, 2008b), of at least 15 minutes, which is video recorded. This interview needs to be administered by a qualified Clinical Psychologist or Psychological Counsellor who is trained in the use of the instrument.

Level 1 is indicative of the least efficient interactional pattern to obtain control and Level 9 the most efficient. Mark the most appropriate interactional level in terms of interpersonal control in accordance to the client's verbal and non-verbal communication.

INTERPERSONAL CONTROL RATING SCALE

Name of Client: _____

Date of interview: _____

Rater: _____

Qualifications of Rater: _____

Level of interpersonal control displayed:

1	2	3	4	5	6	7	8	9
----------	----------	----------	----------	----------	----------	----------	----------	----------

1

Level 1

The person appears anxious and uncertain. He/she is unable to verbalize thoughts and feelings towards another person. He/she is obviously submissive in the relationship. He/she also displays extreme feelings of inferiority. He/she reflects little to no control over resources (physical and emotional). He/she is unable to make decisions on his/her own and expects others to nurture him/her.

2

Level 2

Inbetween Level 1 and Level 3

3

Level 3

Although he/she is able to express him-/herself, he/she appears somewhat uneasy and anxious. He/she seems somewhat uncertain and communicates on a personal level some of the time. Anger may be expressed verbally, but is counter-indicated by his /her non-verbal communication. He/she feels at fault or responsible for mistakes at times. He/she adjusts to the expectations of others. His/her judgement of the behaviour of others is existent, but low. He/she will not persecute and punish, but his/her judgement will mostly pertain to fault-finding, which is not communicated most of the time. He/she narrates little control of resources, perhaps in a few areas. A strong tone of submissiveness and inferiority can be detected. Although he/she enjoys making some decisions on his/her own now and then, others usually make the decisions. He/she may also enjoy some emotional and physical nurturance.

4

Level 4

Inbetween Level 3 and Level 5

5

Level 5

He/she is able to express him-/herself freely and openly with taking the feelings of others in consideration. He/she is sensitive towards the situation and will act with ease, attuned to the depth of interaction taking place. Although he/she may be passing some judgment onto others, he/she may not necessarily persecute or punish the other. He/she appears to have some insight into his/her own behaviour and its effects on others. He/she comes across as flexible. He/she is able to make decisions regarding the relationship, but is also acceptant to decisions and suggestions made by his/her partner. He/she is balanced in terms of the use of resources. Other people are seen as equal and he/she does not carry responsibility for others.

6

Level 6

Inbetween Level 5 and Level 7

7

Level 7

Being able to express him-/herself without much constraint, he/she more often than not promotes his/her own agenda. He/she may pass judgement onto others mostly through fault-finding and some verbal persecution and punishment. He/she displays moments of patronisation and dominance, mostly on a verbal level. At times, he/she is sensitive towards the emotions of others, but not really able to reflect on those emotions, especially deeper emotions of his/her partner. He/she is in control of most resources and makes most of the decisions, but will not mind if his/her partner takes a few

decisions. Being self-righteous most of the time, he/she may take only some responsibility for mistakes. He/she may change his/her mind only now and then, but will find it difficult to change his/her interactional style.

8

Level 8

Inbetween Level 7 and Level 9

9

Level 9

The person communicates openly and freely, he/she is able to speak his/her mind at all times through commands, requests, suggestions and statements. He/she disallows the other to use the same communicative patterns. He/she is always dominant in his/her interaction. Coming across as being over self-assured and assertive, he/she gives advice and direction freely with patronisation in the prevailing emotional climate. He/she has no insight into his/her own behaviour and according to him/her, he/she is blameless (blaming and justifying – does not take responsibility for mistakes). He/she is judgemental and often finds fault with his/her partner. He/she reflects having control over all resources (physical and emotional). He/she is convinced that he/she needs to take care of the other person.