

**A Longitudinal Assessment Of Explanation and  
Behaviour Shift in Alcohol Users Comparing Two Models  
Of Substance Use.**

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## ABSTRACT

This thesis describes a longitudinal assessment of explanation and behaviour shift in alcohol users. It involves applying two 'process' models of addiction to the same sample of alcohol using subjects.

Prochaska and DiClemente's Transtheoretical Model of Change (1979) is one of the more influential and widely used models in assessing and treating problem use of a wide range of substances. The model is based on philosophies of psychological measurement which assume literal meaning and veridical status of verbal report. The methodology employed by the Transtheoretical Model to measure an individual's 'Stage of Change' is that of forced choice questionnaire scores, which allow allocation into one of four stages of change. This method therefore assumes an individual's stage of change allocation reflects their current internal state with regard to their substance use.

In contrast, the Functional Discursive model (Davies 1997) is based on philosophies of discourse and emphasises the predictive value of discourse. The model regards discourse as functional and indicative of the individual's current motivational state in relation to their substance use. Therefore the model postulates language is functional in context, and performative rather than informative. This model was developed in response to a growing dissatisfaction with many traditional methods of data collection in the field of substance use. The Functional Discursive Model is also very much a social model because the explanations surrounding the substance using behaviour occur within differing social contexts.

The current study examines the efficacy and applicability of the two models which employ opposing methodological approaches. Using different treatment and non-treatment groups of alcohol users the study also assesses whether progression through the stages of either model differs according to the type of treatment intervention.

In addition, two independent measures were chosen to provide additional data against which to assess and compare the two models. A number of studies have previously demonstrated variation in level of self-esteem according to stage of alcohol problem. This prompted the selection of Rosenberg's Self-esteem Inventory to measure levels of self-esteem across differing contexts (i.e. time, treatment approach and stage of alcohol use). The second independent measure included in the study was the Alcohol Use Disorders Identification Test (AUDIT), which was chosen to measure levels of problematic alcohol use across the differing contexts, to enable further comparisons to be made between the models and agencies.

The general hypothesis states that the discourse based model which postulates that language is performative and context dependent will perform better across a range of contexts. The general hypothesis generates a number of more specific hypotheses which are detailed in the introduction. The following study aims to assess how the two different models perform in terms of these hypotheses.

Differences and relationships between levels of self-esteem and levels of problematic alcohol use were found according to stage position in each model. For example, low self-esteem was found to be a feature of the stages (for each model) associated with problem alcohol use. Conversely, higher self-esteem was associated with non-problem stages. Use of the AUDIT confirmed patterns of alcohol use through the stages as proposed by the authors of each model. In addition, AUDIT scores closely mirrored self-esteem scores providing further confirmation that low self-esteem is associated with more problematic alcohol use.

A clear relationship was also found between stage position in each model and type of treatment agency with which contact was made. Agencies supporting an abstinence-based approach to treatment were found to be treating only those individuals at the most problematic stages of each model. In contrast, agencies supporting a return to controlled drinking were found to treat individuals across a range of stages.

Comparisons made between the two models suggest that while some overlap regarding the defining characteristics of individual stages was present, the Discursive Model can better accommodate a broader spectrum of substance use than is measured by the Stages of Change. Thus, the two models cannot be mapped directly onto each other.

In terms of clinical application, the two models were found to be better suited to different treatment approaches. The Discursive Model appears better equipped to accommodate harm reduction and controlled drinking treatment approaches and the Stages of Change appear more pertinent to an abstinence-based approach.

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## **Chapter 1**

### **Introduction to addiction**

#### **Defining addiction**

The terminology used by the two most widely accepted classifications of addiction [ (i) International Classification of Diseases (ICD-10, World Health Organisation 1992) and (ii) Diagnostic and Statistical Manual of Mental Disorders (DSM-IV, American Psychiatric Association 1994) ] refer to addiction by use of the word “dependence”. The two classification systems are very similar, DSM-IV describes substance dependence as follows:

“The essential feature of Substance Dependence is a cluster of cognitive, behavioural, and physiological symptoms indicating that the individual continues use of the substance despite significant substance-related problems. There is a pattern of repeated self-administration that usually results in tolerance, withdrawal and compulsive drug-taking behaviour.”

The document then proceeds to define tolerance, withdrawal and compulsion, but claims because dependence can be present without tolerance or withdrawal (e.g. Cannabis Dependence) a further specification is required:

“The specifiers: With Physiological Dependence and Without Physiological Dependence, are provided to indicate the presence or absence of tolerance or withdrawal.” (DSM-IV, 1994).

The ICD 10 describes dependence syndrome as:

“A cluster of physiological, behavioural, and cognitive phenomena in which the use of a substance or class of substances takes on a much higher priority for a given individual than other behaviours that once had a greater value.” (ICD 10, 1992)

Diagnostic guidelines are given which include criteria such as; compulsion, difficulties in controlling substance-taking behaviour, physiological withdrawal state, and evidence of tolerance.

Over recent decades the term “addiction” has expanded to the point where it is now used to explain a range of behaviours other than drug and alcohol use, for example, gambling, sex, exercise, food, video games and even shopping.

Akers argued:



**“The addiction label is apt to be applied to any hard-to-stop undesirable habit, especially if the person applying the term wants to show how serious the problem is. The addiction label is also self-applied as an excuse for not successfully giving up the habit.” (p778, Akers 1991)**

**The increasingly casual and indiscriminate use of the word addiction has led some theorists to seek a way of constraining the use of the term, by reaffirming the definition of addiction based simply on physiological dependence (Akers 1991). This would mean a return to the traditional concept of addiction which allowed the use of the term only when tolerance and physical dependence were present. However this approach would not satisfy those theorists who support the concept of psychological dependence as a state arising from the process of positive reinforcement, in contrast to negative reinforcement which underlies physiological dependence (Ray and Kair 1987). The much reported “addictive” properties of the drug cocaine are explained in terms of psychological addiction because research has failed to establish that physical dependence occurs with repeated cocaine use.**

**In essence, it would appear that in response to an ever increasing number of variables identified as contributing to the development and maintenance of addictive behaviours, the addiction label has been stretched and manipulated in order that it may still be regarded as a defining concept.**

**Almost every tradition within psychology proposes its own theory of addiction; foremost approaches include examples such as socio-cultural, biological, psychoanalytic, behavioural, cognitive and personality theories. While many theorists believe addiction can be adequately explained by a single approach, others contend that the concept is too multifaceted to be reduced to the limitations of one theory, suggesting instead a complementary view.**

**Mulford made this point:**

**“.. the alcoholologist’s task of identifying the forces influencing the alcoholic process and untangling their complex interrelationships is much like that of the meteorologist’s attempts to understand the process called the ‘weather’” (p35, 1990)**

**Addiction is probably best regarded as a state of mind and pattern of behaviour which results from a delicate balance of genes, biochemistry,**



psychological processes and the social and physical environment, unique to every individual.

“Addicts” *do* have choices and must not be allowed to absolve themselves of responsibility for their behaviour but equally, it is important to acknowledge the powerful forces (psychological, social and physical) which combine to make changing problematic substance-using behaviour an arduous task.

The research study that follows examines the concept of “addiction” in relation to alcohol use. The development and consequences of “addictive” behaviours often vary according to the type of substance used. For example, consider the differences between illicit and licit drug use (with alcohol use falling into the latter). Assessing and resolving problematic alcohol use is often very different to tackling the problems surrounding drug abuse, in part due to the socially acceptable status enjoyed by alcohol use. The increased availability of alcohol and the different attitudes and beliefs about alcohol compared with other drugs creates a different research environment and gives rise to the typical difficulties in definition.

A British Psychological Society working party (1984) made the point that even when the historical, cross-cultural and cross-social differences in definitions of normal drinking were discounted, epidemiologists still have considerable difficulty;

“...in drawing any line which is other than quite arbitrary between the normal and the abnormal.” (p.7, Robertson et al. 1984)

Anomalies in the definition of “problem use” and “addictive behaviour” according to type of substance use is an issue that will be returned to later in this thesis.

The following PhD study investigates two models of addiction (i) The Functional Discursive Model based on attribution theory with a strong emphasis on social context, and (ii) The Transtheoretical Model thus titled because it draws from a range of theoretical orientations found under the umbrella of psychotherapy.

While each model has identifiable roots in particular theoretical approaches, application of a process model shifts the emphasis more directly towards the processes and stages involved in a substance user’s addiction “career”, (according to the substance of abuse). Each of the models can in principle

accommodate the development of, and predict the pattern of, addiction and in addition consider how clinical intervention affects the process.

### **Background/theoretical base to current study**

Prochaska and DiClemente's Transtheoretical model of change is one of the more influential and widely used models for assessing and monitoring problem users of a wide range of substances including alcohol.

Prochaska and DiClemente conducted a number of studies (DiClemente 1981; DiClemente, Prochaska & Gibertini 1985; DiClemente, Gordon & Gibertini 1985) which empirically supported the postulate that “..an individuals feelings of self-efficacy for engaging in certain behaviours is highly predictive of actual behaviour” (Prochaska et al 1990.)

The principal theoretical construct of the model lies in its five stages of change. This focus on the process of change is dependent on an individuals “readiness” to change and therefore involves active participation and motivation from the client. The combination of an individual's attitudes, intentions and behaviours are the means by which an individual is categorised within the model. These are assessed using a continuous measure which produces separate scales for each stage - the University of Rhode Island Change Assessment Scale (URICA).

Prochaska and DiClemente argue the Stages of Change serve three important functions, to match clients to appropriate treatment and predict their progress through, or termination from treatment.

In contrast to the person-based approach of the Stages of Change, which assumes what an individual thinks leads to what they say and, consequently, how they behave, the Functional Discursive model emphasises the predictiveness of discourse. This model, which was recently developed at Strathclyde University, also categorises individuals at a particular stage within their substance-use career according to their explanation structures, on the basis of which predictions are made about subsequent behaviour. This approach regards discourse as functional and indicative of the individual's current motivational state with regard to their substance use. Thus, examining contextual variations in discourse shifts, reveals the motivation underpinning specific discursive acts which are used as a predictor of subsequent behaviour. This is consistent with an attributional approach in which the subject's explanations for their past behaviour act as



determinants of future behaviours by revealing salient motivations and expectations in the individual's substance using context.

The Functional Discursive Model therefore differs in both methodology and in underlying philosophy from that of the Transtheoretical Model's Stages of Change, since it relies on the coding of responses to attributional type questions. Participants are categorised according to the type of explanations they give for their alcohol use on the basis of seven underlying dimensions. The application of the dimensions allows for each subject to be classified into one of the five stages which are "differentiated by boundaries of differing rigidity" (Davies 1997).

Once categorised in the five-stage framework of progressive substance use, the individual's position within the model allows for predictions about further use to be made. Use of the model in an applied setting involves facilitating a shift in a clients explanation of their substance behaviour - this is its clinical objective.

The Functional Discursive model is very much a social model because the behaviour surrounding the substance use occurs within differing social contexts.

"The hypothesis is that different stages in the natural history of addiction, as it occurs within a Western/UK context, require particular types of explanatory discourse from the individuals involved" (p14 Davies et al. 1994)

Finally, the Functional Discursive Model was developed in response to growing dissatisfaction with traditional methods of data collection in the field of substance abuse. This is an area in which many researchers have assumed subjects to be "in touch" with their mental states and thus expect verbal reports to be both accurate and truthful. The Functional Discursive model differs from the Prochaska and DiClemente model in this assumption.

### Summary

The central theme of the current PhD thesis is the comparison of two models of addiction: the Transtheoretical Model of Change and the Functional Discursive Model. On the surface, the two models may appear similar. Both models posit an ordered sequence of stages, with movement through each stage leading to recovery from the problem behaviour. Both models can accommodate relapse by allowing cycling or sub-cycling through stages. However, the models differ fundamentally in theoretical underpinnings.

Examining attitudes, behaviour and intention in the Transtheoretical Model assumes the accurate reporting of current internal processes (exemplified by the names given to each stage). So, for example, an individual who endorses statements which indicate that they do not intend to stop smoking will be classified as a precontemplator. The Functional Discursive Model does not rely on veridical verbal reports. Instead, the model is characterised by different types of natural discourse which “emerge in predictable and orderly form” according to the particular contexts within which the substance use occurs: “Consensual acts of discourse will emerge; not because they are inherently “true”, but because they make functional sense.” (Davies 1997, p.60) Also, because culture defines the context, the discourse can be said to be culturally specific.

Therefore, consistency in verbal reports is based upon different assumptions across the two models: the Transtheoretical Model assumes that individuals who produce the same verbal report share the same *internal* state, whereas the Functional Discursive Model assumes that individuals who produce similar types of discourse share the same *external* context. As a result of these contrasting assumptions the methodologies employed by each model are very different.

### **Proposed research study**

This research is a longitudinal assessment of explanation and behaviour shift in alcohol users comparing two models of substance use and treatment, which each employ contrasting methodologies.

Prochaska and DiClemente’s “Transtheoretical Model of Change” (1979), is a widely known and well established model of addiction, which has been extensively employed in addiction research. The second model, the “Functional Discursive Model of Addiction” (Davies 1997) is a recently developed model which is relatively untested.

The aims of the proposed study are to test the efficacy, predictiveness and applicability of the two models to different clinical and non clinical groups of alcohol users, and to examine whether progression through the stages of either model differs according to the type of clinical intervention.

In addition, two independent measures were chosen to provide additional data against which to assess and compare the two models.



A number of studies (reviewed in chapter 8) have previously demonstrated variation in level of self-esteem according to degree of problematic alcohol use. Therefore Rosenberg's Self-esteem Inventory was selected to measure levels of self-esteem across differing contexts (i.e. time, treatment approach and stage of alcohol use).

The second independent measure included in the study; the Alcohol Use Disorders Identification Test (AUDIT), was chosen to measure levels of problematic alcohol use across the differing contexts, to enable further comparisons to be made between the models and agencies.

In order to differentiate between the efficacy of the two models, subjects will be sought from certain critical groups:

(1) Those in contact with agencies providing treatment and/or support for people with problematic alcohol use. These subjects are referred to as the agency group, and were recruited from the Drug and Alcohol Resource Team (Borders Health Board), Alcoholics Anonymous and the Scottish Council for Alcohol.

(2) The second group of subjects did not have any contact with treatment agencies and are referred to as the non-agency group.

The study is of 61 individuals, each assessed on two occasions (6 months apart), using on each occasion three questionnaires (combined) and a minimally structured interview. The initial allocation of subjects was based on agency/non-agency contact, and type of intervention for the treatment group.

## **Thesis plan**

The thesis contains 16 chapters which are grouped into four parts.

Part One of the thesis considers the principal features of attribution theory, reviews the application of attributional theory to addiction research, and is succeeded by an explanation of the Functional Discursive Model.

This is followed by an examination of the Transtheoretical Model and a review of the most important studies from the wealth of research that surrounds the concept of "stages of change".

Part Two considers the measurement of problematic alcohol use and the measurement and role of self-esteem in substance use.

In addition, approaches employed in the treatment of problem alcohol use are examined; harm reduction, counselling and *The Twelve Steps*, with each discussed in relation to the three agencies from which subjects were recruited for the current study.

Part Three includes a report of the pilot study carried out before the PhD study commenced. This is followed by the PhD research methodology. Part three also includes the results which divide into four chapters.

Each model is examined in relation to (i) agency contact (ii) measure of problematic alcohol use (AUDIT) and (iii) self-esteem. Finally the data from each model is examined individually and then comparisons are made between the two models.

Part Four offers the conclusions from the research study.

## Chapter 2

### Attribution theory

The following chapter outlines the key developments in the history of attribution theory beginning with the work of Heider 50 years ago. During this period of time attribution theory has advanced in many different directions, although only the key propositions can be accommodated within the scope of the current text.

The principal reason for outlining attribution theory is to pave the way for the idea that attributions, and particularly attributions made with reference to the subject of addiction, can be functional and dependent on the context in which they are produced.

The aim of attribution theory is to explain the causes of other people's behaviour, as well as the causes of one's own behaviour.

"Attribution theory is the name given to the set of theoretical principles proposed to account for how people draw causal inferences about one another's behaviour" Eiser 1978 (p.238)

Attribution theory has always been concerned with understanding people's explanations for events and behaviour, viewed as "causal explanations". However early attribution theory did not differentiate between the "social nature of reasons" and the "scientific nature of causes" (Davies 1992, p.3). This was exemplified in the work of Heider (1944, 1958) on phenomenal causality.

Early attribution theory was strongly influenced by Heider, who assumed that individuals perceived their social environment as predictable and therefore controllable. Heider drew this conclusion from an early experiment (Heider and Simmel 1944) in which he showed people a film of animated geometrical shapes moving around a screen, Heider had orchestrated these movements so that the shapes appeared to move in relation to each other. Subjects reported what they saw in anthropomorphic terms, i.e. describing the square "following" the circle or the square "chasing" the triangle, etc. The subject's use of purposive terms and the implication that one shape's movement (behaviour) caused another shape to behave in a certain way convinced Heider that if people attribute desires, intentions and needs when explaining the movement of geometric shapes, then they are most likely to do the same when explaining the actions of people. Heider therefore made no distinction



between the means by which people predict social events and how they predict physical events.

Heider was primarily concerned with the distinction between personal and impersonal causality, which he believed to be fundamental to the process of phenomenal causality.

“Attribution in terms of impersonal and personal causes, and with the latter, in terms of intent, are everyday occurrences that determine much of our understanding of and reaction to our surrounding.” (Heider 1958, p.16)

The perception of personal causality is dependent on the perception of intentionality. According to Heider, personal causality is represented by actions which are intentional or purposive. If an individual’s behaviour is unintended this represents impersonal causality. This means the degree to which an individual is held responsible for his or her actions is dependent not only on their intentions, but also on the extent to which the consequence of a particular action can be attributed to impersonal or environmental factors. This search for causation between personal (internal/dispositional) causes and environmental (external/situational) causes, was Heider’s contribution to early attribution theory and continued to be an essential feature in its subsequent development.

Jones and Davis (1965) expanded the concepts proposed by Heider with the development of the theory of “correspondent inferences”. Jones and Davis’ theory endeavoured to explain the extent to which an individual’s action could be attributed to dispositions and intentions, as opposed to situational or other “external” factors. A disposition is a relatively enduring trait or characteristic, therefore, a dispositional attribution is the attribution of the cause of a person’s actions to an internal, long-standing characteristic. The Jones and Davis theory of correspondent inferences attempts to explain how a person infers a disposition in another person which corresponds to their behaviour. The process of attributing particular intentions to the “actor” involves two critical features: knowledge and ability (see Figure 1). The “perceiver” assumes that the “actor” knows the outcome of his or her behaviour (the knowledge criterion) and is capable of intentionally producing such outcomes (the ability criterion).



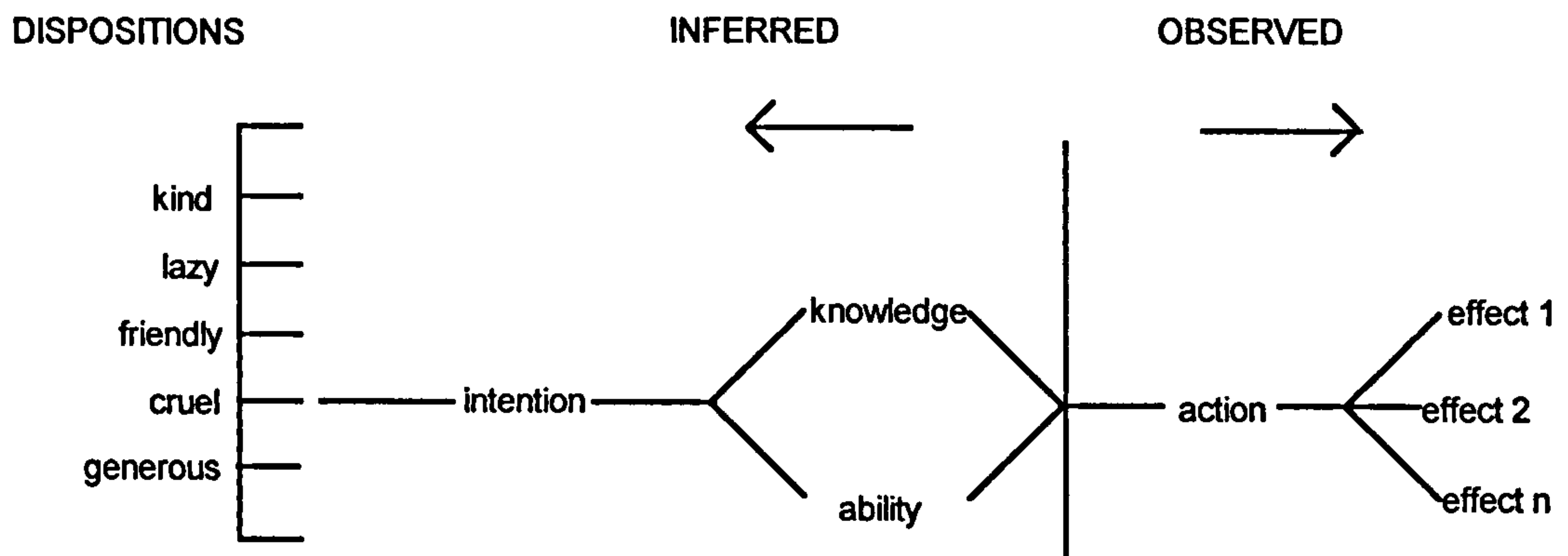


Figure 1: Attribution of dispositions from observed actions (Jones and Davis, 1965, p.222).

A correspondent inference is made by the perceiver when he or she applies a similar description to both the behaviour and underlying characteristic (i.e. disposition) of the actor. Jones and Davis gave the following example: in the case of an actor exhibiting domineering behaviour, the correspondent inference would be that the domineering behaviour was a reflection of the intention to dominate, which indicated a dominant disposition.

The degree to which an individual's behaviour reflects his or her dispositions and intentions, as opposed to the influence of external situational constraints is said to be dependent on (i) the number of "noncommon effects" and (ii) the social desirability of these effects.

Non-common effects are the consequences of an action which would not have resulted if the actor's intentions had been different, primarily the outcome which discriminates between what the actor did and what the actor could have done.

An observation Eiser (1978) made of the Jones and Davis model was its importance in emphasising that

"....the information value of the behaviour is proportionate to its distinctiveness". (Eiser 1978, p.241)

An attempt to reformulate the correspondent inference model was made by Jones and McGillis in 1976 in order to resolve some of criticisms levelled at the original model. Jones and Davis in their original model did not recognise the difference between expectations of people's behaviour in general and behaviour particular to individuals. Jones and McGillis suggested that knowledge of an individual could be divided into two types of expectancies:

category-based and target-based expectancies. Category-based expectancies are more generalised expectancies and are often little better than stereotypes. Target-based expectancies are the result of more detailed knowledge the perceiver has about the actor from which to make the corresponding inference. This refinement of the theory placed more emphasis on the knowledge an individual already has of the person whose behaviour they seek to explain.

The biggest problem with the correspondent inference model, which has not been resolved, is that it only allows attributions to be made from a single interpretation the perceiver makes of the actors behaviour. Because in reality there are usually several interpretations of an event or behaviour, restricting interpretation of behaviour to a single inference severely limits the scope of the correspondent inference model. Jones and McGillis concede that correspondent inference theory:

“.....is essentially a rational baseline model. It does not summarize phenomenal experience; it presents a logical calculus in terms of which accurate inferences could be drawn by an alert perceiver weighing knowledge, ability, non-common effects and prior probability.” (Jones and McGillis 1976, p.404)

Despite its shortcomings the correspondent inference model is often regarded as a cornerstone of attribution theory.

The development of attribution theory took a step forward with the introduction of the ANOVA (or covariance) model by Kelley (1967). In the original Jones and Davis model the process of making an inference about the “actor” involved the “perceiver” disregarding any historical information he/she might have concerning the person under observation. In contrast, Kelley argued whatever information is relevant should be included in the attributional process. The ANOVA model provides a comprehensive account of how Kelley believed causal inferences to be constructed. The model was important because it sought to demonstrate:

“.. the fact that the explanation postulated for some action results from the way in which that situation is perceived by the person constructing the causal account.” (Davies 1992, p.4).



The key difference between the two models therefore lies in the emphasis given to either dispositional or external causes of behaviour, a distinction originally proposed by Heider.

Kelley said of the two models:

“The observer’s focus is essentially at opposite ends of the person-environment polarity. In my [model] .... the person is concerned about the validity of an attribution regarding the environment. He applies the several criteria in an attempt to rule out person-based sources of ‘error’ variance. In the problems specified by Jones and Davis the observer has exactly the opposite orientation. He is seeking for person-caused variance .... and, in doing so, he must rule out the environmental or situation-determined causes of variation in effects.” (Kelley, 1967, p.209)

According to Kelley’s theory a perceiver’s impression of another person is equated with an observation, for which exists the potential of change as a function of changes in any one of three critical factors. These factors are referred to as “consensus”, “consistency” and “distinctiveness”, and determine whether the perceiver attributes their impression of the observed person to an “internal” characteristic or their circumstances:

(1) Consensus is explained as; if the perceiver’s (P<sub>1</sub>) impression of the person they observe (O<sub>1</sub>) is as a result of something about O<sub>1</sub> and not P<sub>1</sub>, then it is expected that other perceiver’s P<sub>2</sub>, P<sub>3</sub>, etc. will share P<sub>1</sub>’s impression of O<sub>1</sub>. If, however, the other perceivers do not share P<sub>1</sub>’s impression of O<sub>1</sub>, then the impression formed by P<sub>1</sub> will be less stable and demonstrate low consensus.

(2) Consistency: high consistency results from repeated observations which produce the same impression.

(3) Distinctiveness: is explained as the degree to which the observed person is “unique”. Low distinctiveness would result if the impression created by O<sub>1</sub> was also created by O<sub>2</sub>, O<sub>3</sub> etc.

Figure 2 illustrates how the patterns of high and low consensus, consistency and distinctiveness can be used to explain whether behaviour is attributed to internal or external causes.

**Figure 2: Causal Attributions (Bernstein 1988, p.646).**

<p><b>LOW +</b> <b>CONSENSUS</b> Few people dislike Ralph within</p>	<p><b>HIGH +</b> <b>CONSISTENCY</b> Dad is always rude to Ralph</p>	<p><b>LOW =</b> <b>DISTINCTIVENESS</b> Dad is rude to all your friends</p>	<p><b>INTERNAL</b> <b>ATTRIBUTION</b> Dad's rudeness is due to something him: "Dad is an old grouch"</p>
<p><b>HIGH +</b> <b>CONSENSUS</b> Most people dislike Ralph</p>	<p><b>HIGH +</b> <b>CONSISTENCY</b> Dad is always rude to Ralph</p>	<p><b>HIGH =</b> <b>DISTINCTIVENESS</b> Dad is never rude to your other friends</p>	<p><b>EXTERNAL</b> <b>ATTRIBUTION</b> Dad's rudeness is caused by something outside Dad: "Ralph is a jerk"</p>
<p><b>LOW +</b> <b>CONSENSUS</b> Few people dislike Ralph</p>	<p><b>LOW +</b> <b>CONSISTENCY</b> Dad is usually nice to Ralph</p>	<p><b>HIGH =</b> <b>DISTINCTIVENESS</b> Dad is never rude to your other friends</p>	<p><b>EXTERNAL</b> <b>ATTRIBUTION</b> Dad's rudeness is caused by something outside Dad: "Ralph must have done something wrong"</p>

One of the significant features of Kelley's model is that direct observation by the perceiver is not the only means by which information about consensus, consistency and distinctiveness is established. Reported information, beliefs and preconceptions are equally valid in the absence of direct observation, with "historical" information of particular relevance when establishing the distinctiveness and consistency of behaviour.

Davies (1992) argued that the principles of Kelley's theory demonstrate that the way in which people construct explanations of social behaviour:

"... is psychologically dynamic rather than primarily veridical." (p.6)

Therefore, the attribution process, as constructed by Kelley, is not dependent on explanations being entirely truthful.

How does the perception of objects relate to perception of people? The perception of people shares some of the principles involved in the perception of objects. The work of Michotte (1946), who was chiefly concerned with perceptual processes, used visual stimuli in a series of experiments to examine the way in which people perceived causality.

Michotte found individuals explained the movement of visual stimuli such as blobs, circles, squares and lines in causal terms. Adopting and adapting some of the Gestalt principles (contiguity, proximity and continuity), Michotte showed how the perception of causality could be manipulated by the experimenter to produce predictable outcomes.



Woodworth and Schlosberg (1954) also linked the perception of objects using Gestalt principles to social perception. When Woodworth and Schlosberg asked subjects to describe an image of an object shape, they found most individuals used pre-existing knowledge in an attempt to impose meaning to the object.

Michotte's work is relevant to the current text because it demonstrates the way causal explanations are applied to inanimate objects in the form of physical and social accounts, despite the fact that causality does not exist among meaningless objects such as blobs and shapes. If causality does not exist in these contrived examples, then the causal explanations given cannot be considered "legitimate" or representative of the "truth". It follows, therefore, that causal explanations involving real people and events, which are assumed to be more "valid" or real by virtue of involving people instead of meaningless objects (if constructed in the same way as the causal accounts given for the artificial stimuli), could consequently be no more real, meaningful or truthful than the artificial examples.

This point is of critical importance to the current text, i.e. that knowledge of the external circumstances surrounding causal explanations does not provide any assurances as to the "truthfulness" of the explanations. The relevance of "truthfulness" in understanding causal explanations will be returned to later in this discussion.

So far, the discussion has considered the contribution of some of the key theorists involved in the development of attribution theory. The separate theories proposed by each of these individuals have all focused primarily on understanding the inferential process involved in the construction of causal explanations. However, equally important is the step beyond this process which considers how such explanations can predict current and future behaviour.

In applied and clinical settings the relationship between attributions and behaviour is of considerable significance. This is because it is now recognised that a change in the way a client explains their problematic behaviour can produce a change in the behaviour itself. Therefore, in a clinical setting, the aim of a therapist would be to facilitate a shift in the way problematic behaviour is explained. A shift towards more positive attributions can, in turn, lead to a successful change in the problematic behaviour.

Interpretation of attributions in “real life” situations, such as the clinical setting, involves considering the link between attribution and behavioural consequences and, thus, goes beyond the scope of classical attribution theory, which is primarily concerned with understanding the inferential process. When the focus moves to consider how consequences in the form of behavioural, emotional and cognitive states occur, attribution becomes *attributional* theory.

Figure 3 illustrates Kelley and Michela’s (1980) perception of the relationship between attribution and attributional theories:

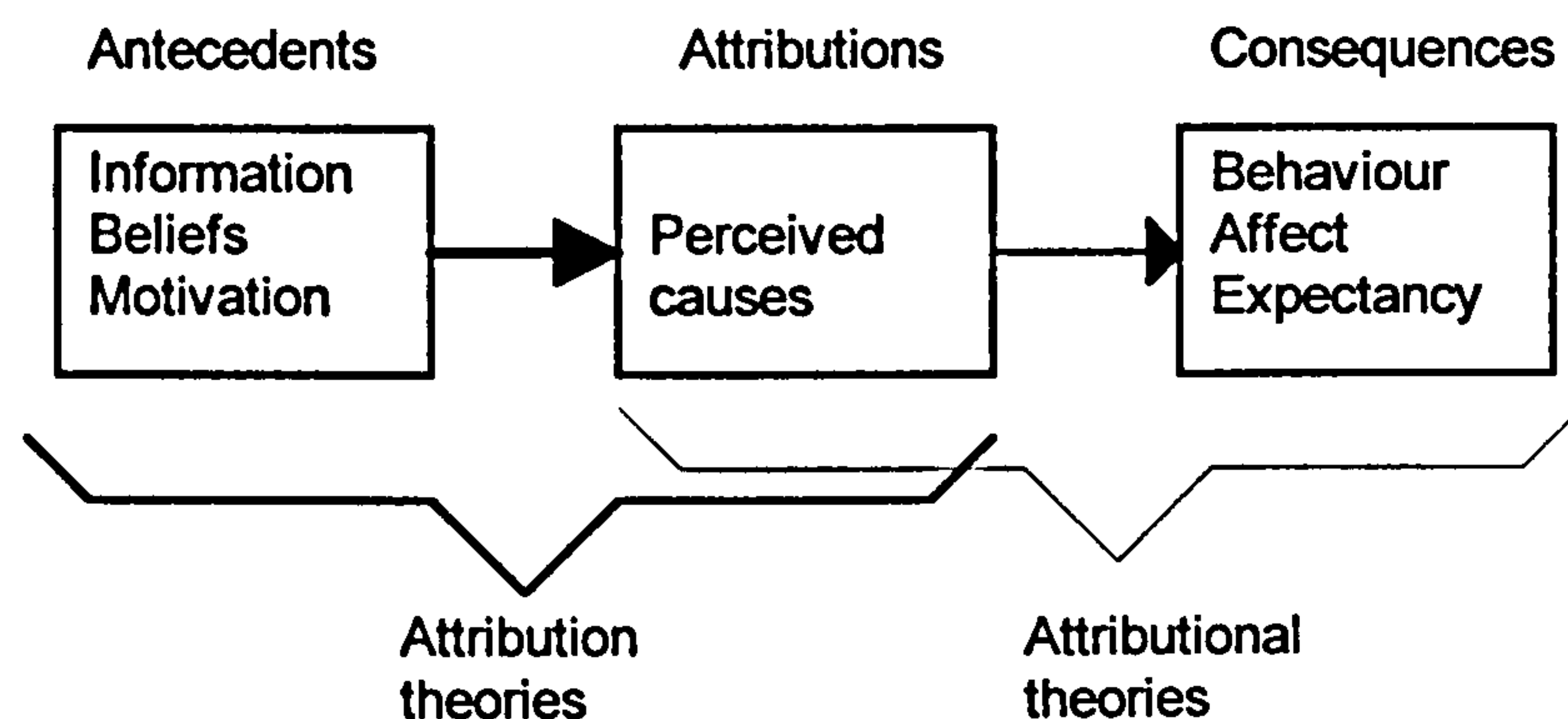


Figure 3: The Kelley and Michela (1980) model.

Weiner’s theory (1971, 1974) is of some significance to the current discussion because it includes both attribution and attributional theory. Weiner’s work centred around a series of studies which resulted in his model of “achievement related behaviour”. In addition to the observation that people attribute success or failure on various achievement tasks to a variety of causes, Weiner argued that the form such explanations took played an important part in the subsequent behavioural, affective and cognitive reactions. To demonstrate the association between type of explanation and behavioural outcome, Weiner postulates three critical dimensions.

(1) Locus = internal/external. Internal locus is when the source of the behaviour comes from within the person, for example ability, effort, drive, etc. External locus is when the cause lies with the environment, for example opportunity, circumstances, relatives, etc.



**(2) Stability = unstable/stable.** When the cause of the behaviour is variable over time, such as weather, illness, luck, etc., it is regarded as unstable. Examples of stability include nationality, sex and age.

**(3) Controllability = controllable/uncontrollable.** When the cause of behaviour is considered volitional, such as when due to effort, decision making, resourceful, etc., it is regarded as controllable. Uncontrollable causes lie outside the individual and may include extent of difficulty or lack of opportunity.

Davis (1992) suggests Weiner's dimensions are more suitable than Kelley's dimensions of consensus, consistency and distinctiveness, when it comes to categorising attributions and that Kelley's system is more appropriate for categorising the behaviour from which the attributions originate.

The locus dimension, as proposed by Weiner, was not an original concept but was borrowed from Rotter's (1966) theory the "Locus of Control of Reinforcement". Rotter describes "locus of control" as when an event:

".... is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him ..... we have labelled this a belief in external control. If the person perceives that the event is contingent upon his own behaviour or his own relatively permanent characteristics, we have termed this a belief in internal control." (Rotter, 1966, p.1)

Rotter postulated an I-E scale which allowed the internal-external dimension to be measured as a personality trait. However when the I-E scale has been applied to the nature of substance abuse the expectation that users high on internality would be better able to control their substance use than those who exhibit high externality, has not been supported by research findings.

This is of relevance to the debate surrounding the reasons or causes given to explain substance dependency. According to Davies (1992), Weiner's stable/internal dimensions have contributed to the "helpless addict" explanations for problematic drug and alcohol use. However the evidence to date indicates that substance use cannot be explained by any general cognitive or personality type, therefore the consistency of such explanations must "derive primarily from that context, and be produced by that context." (p.23).

A growing number of attribution studies with substance users demonstrate the role context plays in producing the "addicted explanation". Particular

settings within society have “allowed” the helpless addict explanation to flourish, by “helping” (i.e. providing services for) those individuals who present in such a way. The context in this example refers to drug and alcohol use in clinical, counselling or judicial settings.

Chapter 3 reviews some of the evidence which clearly demonstrates how alternative context/settings produce different attributional explanations for substance use.

### Attributions as self-fulfilling prophecies

Research has shown that certain attributions about other people can, on occasions, produce self-fulfilling prophecies. The most widely known piece of research in this area is reported in the book “Pygmalion in the Classroom” by Rosenthal and Jacobson (1968). Their research showed that teacher’s expectations could produce different outcomes in terms of the scholastic achievement of their pupils. Favourable expectations towards randomly selected pupils produced significant gains in measured IQ.

Jones and Goethals (1971) argued first impressions of people can have a disproportionate influence on how we perceive them in terms of ability or other attributes that we expect to be stable and consistent over time. Using intelligence as an example, Jones and Goethals argue once categorised as “intelligent” we are likely to assimilate further information about this person to this category.

“These categories are like hypotheses about the nature of reality being confronted. Once a categorical decision is made, subsequent information is distorted to fit the category or to confirm the hypothesis as long as it is not too discrepant from the category’s typical instance.” (Jones and Goethals 1971, p.43)

Other studies concerned with the effects of expectation on achievement have shown how an individual’s own expectation of themselves can strongly influence the outcome. It is therefore not only the expectations that other people hold which influence behaviour but also how an individual thinks about him or herself.

“We are in possession of selves just in so far as we can and do take the attitudes of others towards ourselves and respond to those attitudes.” (Mead 1925, p.273)



The role of self-fulfilling prophecies in attribution and attributional theory is a significant one. In the field of addiction research one commonly occurring self-fulfilling prophecy is found most frequently in the clinical setting/context. This being when a counsellor or therapist in a clinical setting attaches the label of “helpless addict” to a drug or alcohol user, which can result in the user adopting the stereotypical “helpless addict” explanations for his or her behaviour; these may not have been adopted had the label not been applied. This label excuses the individual from taking responsibility for both their behaviour and the failure to change the behaviour. It means the behaviour can continue without any expectation of change.

To conclude, in the social world the relationship between the observable characteristics of behaviour and the actual meaning conveyed to the observer is not a straightforward one. It is therefore essential that interpersonal attributions go beyond a reiteration of the behavioural information from which they are derived. Understanding attributions also involves an evaluation of the behaviour and an interpretation of it with regard to the hypotheses concerning the supposed effect of personal and situational factors.

The discussion so far has attempted to introduce briefly attribution and attributional theories of the past 50 years, by selecting and outlining the most enduring and influential theories during this period. Nevertheless, this brief summary of the attribution/al process does not do justice to the complex and critical role attribution plays in the process of everyday understanding of human behaviour.

The next part of the discussion considers a more contemporary way of understanding attributions, based on a recognition of the functional nature of the attribution process.

As mentioned earlier, neither Kelley’s ANOVA model (1967) nor Michotte’s work on the perception of causality (1946) relied on causal explanations to be veridical, the emphasis in much of early attribution theory was on the process of explanation rather than the outcome attached to the explanation. Kelley’s model allows information not available from direct observation to be substituted with “reported information, beliefs and preconceptions”. Consequently relinquishing reliance on direct “overt” observations results in more subjective explanations because they are derived from a much wider

repertoire of socially influenced cognitions, such as beliefs, attitudes, stereotypes, etc. This, in turn, gives rise to greater flexibility and choice in the type of explanations given. According to Davies (1992) “preferred and non-preferred explanations” are “primarily functional; their main purpose is not to explain in any scientific sense, but to justify an action, reduce culpability, to attract praise, to make sense of a situation and so forth.” (p.26)

### Influences on attribution

#### Actor-observer differences in attribution

Jones and Nisbett (1971) found that the way people explain their own actions and behaviour is often quite different from the explanations they give for other peoples behaviour, often referred to as the fundamental attribution error. They observed:

“There is a pervasive tendency for actors to attribute their actions to situational requirements, whereas observers tend to attribute the same actions to stable personal dispositions.” (Jones and Nisbett 1971, p.80)

In addition Jones and Nisbett introduced the idea of “self-justification influences” in which actors are more likely to blame their circumstances when things go wrong, but take the credit themselves when things go right. However, as Jones and Nisbett point out, the motivation to attribute causality one way or another is usually only relevant when explanations involve the question of blame or credit.

Further differences between actors and observers are found according to Jones and Nisbett initially between the information available to the different people, and then in the differences with what they do with the information.

“We believe that important information-processing differences exist for the basic reason that different aspects of the available information are salient for actors and observers and this differential salience affects the course and outcome of the attribution process.” (p.85)

#### Motivational bias in attributions

Similar to the self-justification influence mentioned earlier, the self-serving bias is used to explain changes in attribution according to whether the consequences or outcomes of the behaviour are positive or negative. This means a person will attribute a positive behavioural outcome to dispositional characteristics and a negative outcome to circumstances. So, for example, in

a case of self-serving bias if a pupil gave the wrong answer to a teacher's question in class, the teacher would attribute the pupil's mistake to insufficient time spent studying; if the pupil gave the correct answer they would be more likely to attribute this outcome to their own ability as a teacher.

According to Davies (1992) the research findings on attribution bias and the evidence which demonstrates that changes in attribution bias can be found according to context, confirm the functionality of the attributions we make when explaining behaviour. Furthermore, if the functions attributions serve vary according to the circumstances in which they occur, it is therefore of critical importance to consider the nature of the context.

Thus far the discussion has briefly outlined the key features of attribution and attributional theory from which emerged the idea that attributions can be functional and context dependent. The next chapter will examine the research evidence which supports this proposal.



## **Chapter 3**

### **The functional nature of attribution**

This chapter examines the research evidence to support the proposal that attributions can be context dependent and functional in nature. The evidence is drawn from addiction research that investigates the explanations substance users give for both licit and illicit substance use.

#### **Attribution and addiction: Eiser's perspective**

Eiser's work combines both addiction research and attribution theory, and underpins much of the contemporary research concerned with the functionality of attribution. Eiser's largest body of work in the addiction field was a series of studies that explored, from an attributional perspective, the reasons smokers gave for smoking. He concluded from this research that the way people explain their "addiction", i.e. smoking, was the result of a learning process, which accompanies the formation of the habit. Eiser also suggested that people smoke because they like it and their choice to do so is a "subjectively rational choice" (Eiser 1977).

"Smoking as a Subjectively Rational Choice" (Eiser and Sutton 1977) was a study which found subjects who were confident in their own ability to stop smoking (if they chose to), without professional help, smoked 30% fewer cigarettes per day than the subjects who felt they could not stop. A finding that supported a distinction made earlier by McKennell and Thomas (1967) between "consonant" and "dissonant" smokers. "Consonant" smokers display no desire to stop smoking and express more positive attitudes about smoking. "Dissonant" smokers express a desire to stop but continue to smoke, smoke more cigarettes and believe themselves to be more "addicted".

Eiser's 1978 paper "Consonant and Dissonant Smokers and the Self-attribution of Addiction" considers the McKennell and Thomas distinction between consonant and dissonant smokers in relation to the self-attribution of addiction. Eiser suggests dissonant smokers are motivated to see themselves as addicted because this allows them to acknowledge the potential health problems but acquits them from any responsibility to stop. This "excuse", i.e. adoption of the helpless addict role, also solves the problem of cognitive dissonance (Festinger 1957), which is when an

individual's cognitions are inconsistent with their subsequent behaviour. In contrast, the consonant smoker who claims to smoke because he/she wants to is more likely to dismiss the evidence that smoking could cause him/her health problems.

Self-attribution of addiction according to Eiser allows individuals to excuse failed attempts at cessation and preclude future attempts despite acknowledgement of the health risks.

Another important paper by Eiser and Gossop (1979) "Hooked or Sick: Addict's Perceptions of Their Addiction", investigated "addict's" own perception of their drug dependence. Eiser and Gossop point out that a large proportion drug and alcohol user's perception of dependence is in many ways similar to the concept of the "sick role" proposed years earlier by Parsons (1951). The most obvious example of this is the disease concept of alcoholism (Jellinek 1960). The "hooked or sick" research sought to investigate addicts feelings of personal control, perceived dependence and expected treatment outcomes. Differences between the two label types found that subjects who saw themselves as "hooked" did not believe they could give up drugs because they were "really addicted", they feared withdrawals and did not express a desire to attempt cessation. Subjects who perceived themselves as "sick" believed their "addiction" to be a sickness which doctors could cure; they also acknowledged the relevance of additional personal problems. Eiser notes of the heroin drug users who perceived themselves as "hooked":

"... their assertion that they are 'really addicted' together with their admission that they have failed to give up drugs by their own efforts, suggests that they have adopted a general attitude of resistance to change in this *context*." (Eiser and Gossop 1979, p.190, my italics)

While Eiser does not address directly the functionality of attribution and the relationship between functional explanations and context, his work does, however, confirm the importance of these aspects in understanding attributional explanations. As Davies concluded:

"Eiser's work is fundamental in suggesting the link between attribution and addiction, and in delineating the properties of addiction in attributional terms." (Davies 1992, p.132)

## **Research findings in support of a functional theory of attribution**

### **The effect of context on attribution**

Davies and Baker's (1987) study "The Impact of Self-presentation and Interviewer Bias Effects on Self-reported Heroin use", examined contextual variation with regard to the self attribution of addiction. Twenty heroin users were interviewed on two separate occasions by different interviewers. First, by a known heroin user and on the second occasion by a "straight" interviewer. The results revealed that heroin users presented as more "addicted", reporting increased drug consumption and more severe withdrawal symptoms to the "straight" interviewer. This shift towards a more internal ("addicted") presentation when questioned by the "straight" interviewer, demonstrates the functional nature of the explanations given in this study. One might assume, in this example, that the function of the shift in explanation was a result of a need to minimise personal responsibility when faced with someone perceived to judge or view drug use in a different light from that of the fellow user.

In McAllister and Davies' (1992) study "Attributional shifts in Smokers as a Consequence of Clinical Classification", 20 female smokers were interviewed twice, 5-7 weeks apart. The first interview elicited attributions from the subjects concerning reasons for smoking and how much they smoked. Prior to the follow-up interview subjects were grouped as either a light or heavy smoker, although no significant differences existed between the data from each group. At the second interview with the same interviewer, the women were asked the same questions. However the interview schedule clearly stated the subject's classification in terms of "heavy" or "light" smoker, which the interviewer made sure each subject was aware of before the interview commenced. As had been predicted, attributional shifts occurred as a result of smoking classification. Those subject's classified as "heavy" smokers made more use of the "addicted" attribution style, while subject's classified as "light" smokers actuated an attributional shift away from "addicted" explanations. These results provide further evidence of variability of explanations according to context and how the "truthfulness" of explanations is often difficult to establish.



## The functional nature of attributional bias

The Davies and Coggans (1988) paper "Explanations for Heroin Use" describes an important study of functional attribution in which the explanations given for heroin use demonstrate the use of different attributional biases and their "functional utility".

Heroin users were interviewed three times at 3-monthly intervals; on each occasion the same questions were administered and these asked subjects to give reasons for (i) staying off heroin, (ii) relapsing, (iii) occurrence of general negative events and (iv) occurrence of general positive events, both with regard to themselves and others.

Among the attributional explanations the actor-observer effect was demonstrated when subjects described their own relapses in positive terms but other people's relapses in negative terms. Similarly, for themselves staying off drugs was associated with negative events but associated with positive events for other people. The self-serving bias was observed in the attributions made by heavier users, who attributed their drug use to be beyond their control, evoking stable, internal factors ("addiction"). In contrast, the less heavy users gave unstable, external reasons, such as circumstances.

The positivity bias, which is the sharing of explanations with people who behave in the same way as oneself as a way of justifying ones own behaviour, was also evident.

To conclude, Davies and Coggans remind the reader that "Explanations for Heroin Use" is a study based on attributional principles and is concerned with the functional rather than the veridical nature of explanations. They suggest the next step in this line of research should focus on studies which are predictive in order to develop a theory that allows predictions to be made as to what type of attributional bias will occur in what circumstances.

Furnham and Lowick (1984) devised a questionnaire based on questions posed by Eiser *et al* in his research with smokers and non-smokers (Eiser *et al* 1977, 1978). Their aim was to examine attitudes to drinking behaviour and compare with Eiser's findings on smoking behaviour. Furnham and Lowick's study (N= 263) demonstrated that the self-attribution of addiction and concerns regarding the health hazards of smoking found in Eiser's research were expressed much less frequently with drinking subjects. Eiser's

finding that most smokers would quit smoking if easy to do so (i.e. if not “addicted”), was not repeated with the drinking subjects because most of the drinkers did not regard themselves as addicted. Only the heaviest drinkers used the self-attribution of addiction to explain their behaviour. The majority of drinkers explained their drinking in terms of pleasure and were not concerned with health risks.

Reduction of alcohol consumption is the more usual concern of drinkers, in contrast to the issue of “giving up” usually associated with smokers.

There was some evidence of actor-observer differences among Furnham and Lowick’s sample of drinkers and non-drinkers. Non-drinkers regarded regular drinkers as susceptible to external influences:

“.....non-drinkers attribute drinking more to the susceptibility of the individual - an internal, dispositional attribution - than do drinkers themselves.” (Furnham and Lowick 1984 p.680)

Jenks (1993) recruited 258 smokers across a range of occupations who were asked to give their views concerning certain aspects of their smoking, as well as their perceptions of other smokers. In support of the earlier Eiser studies (1978, 1979), smokers who smoked more and had smoked for longer, believed themselves to be physically and psychologically addicted. However, the results also found evidence opposing the fundamental attribution error with regard to the attributions given by smokers for their smoking. Jenks found smokers attributed internal factors such as psychological and physical addiction, pleasure and relaxation as more important than factors such as weight control. He claims his findings are:

“..... contrary to the basic idea of the fundamental attribution error, which would predict that smokers would attribute their smoking to external factors.” (p.360)

Walton, Castro and Barrington (1994) examined the role of attributions given by substance abusers after treatment, in situations of abstinence and relapse. Walton *et al* found that some of their results supported the Abstinence Violation Effect (AVE) postulated by Marlatt and Gordon (1985). AVE explains relapse following a lapse (“slip”) in terms of the following types of attributions:

(1) The lapse originated from within the person - internal attribution,



(2) The lapse is trait-like and will therefore happen again in similar situations - stable attribution,

(3) The lapse will generalise to other cues - global attribution.

In contrast, those individuals who experience a lapse but do not relapse are more likely to make the following attributions:

(1) The lapse is attributed to circumstances or other people - external attribution,

(2) The lapse is perceived as a “one off” incident and unlikely to happen again - unstable attribution,

(3) The lapse was a result of a specific cue - specific attribution.

In addition to the AVE explanation for lapse/relapse, Walton *et al* proposed the following attributions which would be given by those individuals who were successful in maintaining abstinence:

(1) Attributing their abstinence as a personal success - internal attribution,

(2) Believing in their abstinence will endure over time - stable attribution,

(3) Believing their abstinence can be generalised across other substances - global attribution.

Walton *et al* summarised the different attributional profiles in the form of the table below:

“Table 1. Hypothesized relationships between attributions and outcome category after exposure to a tempting situation” (p.320)

<u>Attributional dimension</u>	<u>Outcome</u>		
	Abstainers	Lapsers	Relapsers
Locus of causality	Internal	External	Internal
Stability across time	Stable	Unstable	Stable
Substance specificity	Global	Specific	Global

Walton *et al* sought to confirm predictions made by the AVE and, in addition, examine the attributions of successful abstainers. The study used a sample of post-treatment substance abusers, as support for the AVE has generally resulted from studies with smokers.

Ninety-seven participants were recruited from an in-patient treatment centre, and interviewed six months after discharge. Question responses were analysed for the three outcome groups (abstainers, lapsers, relapsers) on the attributional dimensions (internal, stable and global). The results found:

“.. the theorized pattern of attributions among abstainers, as expanded from Marlatt and Gordon’s (1985) relapse model, was empirically validated among substance users” (Walton et al. 1994, p.327).

Support for the AVE in determining reuse outcome after lapsing, was mixed. Evidence for the stable dimension across the three groups as hypothesised in the table above was confirmed, with abstainers and relapsers both making stable attributions, although of a different type. The findings for the locus of causality supported the hypothesised internal attributions for abstainers and relapsers, although contrary to expectation external attributions (i.e. circumstances or other people) were not given by the lapsers. For the specificity dimension, abstainers made global attributions, with lapsers explaining their “slip” as a result of specific cues.

In summary, it would appear relapsers attributed their failure to remain abstinent to internal “trait-like” causes, which regardless of effort and situation cannot be controlled. Lapsers attributed their use to transient situational forces, thus dismissing the inevitability of a full-blown relapse.

In a recent study (Davies and McConnachie 1997) 60 male drinkers were divided into three groups classified according to drinking levels: (i) problem drinkers currently in treatment, (ii) heavy drinkers with no agency contact, but drinking a comparable amount of units per week as the problems drinkers, and (iii) lighter drinkers. Data was collected using personal drinking diaries (adapted from Heather and Robertson 1985) and a questionnaire on dependence-related problems. Results confirmed the hypothesis that self-reports of problematic alcohol use are functional according to context, with the drinkers in treatment producing significantly higher scores for problem and dependent alcohol use than the other two groups. No significant differences were found between heavy and lighter drinkers. The authors claim the study demonstrates:

“....the functional deployment of the ‘addiction script’ in contrasting contexts.”

The results of a study by Ogden and Wardle (1990), “Control of Eating and Attributional Style”, are relevant to the current discussion because, despite being concerned with the subject of eating disorders rather than substance abuse, the study considered the attributional link between attribution and subsequent behavioural outcomes.



Twenty-three overweight women agreed to stick to a diet of 1000-1500 kcal per day for 6 weeks. At a weekly interview the women were asked to report the most significant dietary infringement of the week and assess the cause of the lapse through the completion of an attribution style questionnaire (Peterson *et al* 1982). The key finding of this study was that an internal style of attribution was most frequently associated with lapses in dietary control. Also, through the employment of an attributional measure, i.e. internal/external locus, subsequent behaviour could be predicted.

This finding mirrors the research evidence from smoking cessation studies, in which relapsers attribute their relapse to internal factors (Curry, Marlatt and Gordon 1987, O'Connell and Martin 1987).

Differences in alcoholic's attributions when explaining reuse were found to relate to when the reuse occurred, those subjects who had reused alcohol within the previous eight months made more situational attributions (external). Subjects who reused more than 8 months previously attributed their reuse to dispositional (internal) factors. The authors (McKay, O'Farrell, Maisto, Conners and Funder 1989) suggest using situational attributions:

"...is a way to alleviate the shame that accompanies relapsing...over time the memory becomes less painful so it is easier for the alcoholic to make dispositional attributions." (Walton *et al* 1994, p.321)

Attributional research with both illicit and licit substance users demonstrates how the "addicted explanation or script" changes in functionality and significance according to changes in the context within which it takes place. Circumstances in which substance use is likely to be disapproved of (which does not only include illicit drug use - another example could be society's increasing disapproval of cigarette smoking) tend to evoke explanations for use which research has shown to be adaptive (or maladaptive depending on perspective), by reducing cognitive dissonance, excusing/justifying behaviour or reducing punishment, an example of which would be drug-related crime.

The versatility of the explanations according to where, when and with whom they take place also casts aspersions on the veridical content of the discourse. It is this subject matter - the content and interpretation of verbal reports - that the discussion will next address.

## **Chapter 4**

### **Development of the Functional Discursive Model**

Chapter four divides into two parts. The first half of the chapter discusses two pieces of research not based on attributional theory. The two studies provide further evidence of how context in the form of (i) interviewer effects and (ii) social setting/circumstances, can affect the self reporting of drug use. Next, the theory of social criterion is briefly outlined, and offered as a mechanism to explain the motives behind the variability found in verbal reports.

The chapter then suggests that a need exists for an alternative approach to the interpretation of verbal reports, one which does not rely on establishing the veridical content of a response. The second half of the chapter proceeds to examine the development of a method for the “principled analysis of discourse”, the result of this work generated the functional discursive model.

#### **Interviewer effects**

Johnson and Parsons (1994) carried out a study on homeless persons to examine interviewer effects on survey responses to questions on substance use. Based on previous research literature, Johnson and Parsons hypothesised three types of interviewer effects which might affect responses to survey questions:

(i) Direct effects are the result of the respondent inferring the interviewer’s attitudes from observable characteristics such as gender, race and age. The respondent will modify their responses to make them more compatible with the perceived attitudes of the interviewer.

(ii) Social distance effects produce increased response editing when increased differences in social group identification occur between respondent and interviewer.

(iii) Null interviewer effects suggest that interviewer effects will only occur when the questions are related to the personal characteristics of the interviewer, i.e. race/gender interviewer effects will only produce response editing when the survey questions are racially sensitive/gender specific. Therefore questions unrelated to either interviewer or respondent characteristics should not result in interviewer effects.



In the Johnson and Parsons study, 14 different interviewers elicited responses to 15 substance use questions from each of 451 homeless people, in order to assess the effects of three interviewer characteristics: gender, race and age.

Results indicated a direct gender-related effect, with respondents of both genders reporting more substance use to male interviewers, and race- and age-related effects with white, older interviewers who elicited more reports of substance use. The social distance effects reported in previous studies were not found and null interviewer effects were not expected because the topic in question (substance use) did not relate to interviewer characteristics.

The point of referring to this study is to demonstrate that an individual's responses to survey type questions will frequently result in some degree of respondent editing (for what ever reason) and to dismiss this possibility is a somewhat naive and blinkered approach to research. It would be reasonable to suggest that (as found in the examples of functional attribution discussed in chapter three) the "sensitivity" of the subject matter plays an important role in influencing the extent of "response editing" or similarly the "truthfulness" of the question responses. For example, with regard to sensitivity, consider the different implications arising from answering a question on preferred choice of illicit drug compared with a question concerning the preferred choice of white or brown bread.

Johnson and Parsons (1994) made the following comment:

"...researchers believe that formulated responses are compared with relevant social norms and may be revised or edited in order to be brought into closer agreement with any norms perceived to have been violated by the unedited responses." (p.83)

The notion of "response editing", "telling the truth", giving "honest" answers to questions, is critically important feature of research which relies on self-report data. The aim of the following discussion is to demonstrate that the research goal of gathering data by means of direct questions which assume honest answers, is often less than satisfactory; instead, an approach to gathering information which does not rely on veridical discourse could prove more effective. Examining the development of this approach is the principal concern of this chapter.

An early study of interviewer effects (Benny, Riesman and Star 1956) found communication between younger respondents and interviewers of the same

gender was the least inhibited, and communication between respondents and interviewers of the same age but different gender the most inhibited.

“The reliability and validity of interview data obtained from 59 narcotic drug addicts” (Ball 1967) is an interesting paper because it made the point (over 30 years ago) that the validity of drug users verbal reports cannot be relied upon, a point many researchers have since preferred to overlook.

Ball’s study involved comparing field interview data gathered in Puerto Rican slums with an “outside criterion”, the outside criteria included (i) clinical and administrative records from hospitals where subjects had been former patients, (ii) FBI arrest records, and (iii) urine samples from subjects.

The results of the study claimed “a surprising veracity on the part of addicts” under specified research conditions. The author proceeded to make the following point:

“The question arises as to whether the 59 addicts would have admitted their illicit behaviour in the absence of corroborative data from the FBI and other official sources?... The results of the present analysis suggest that the social situation and auspices under which interviews are obtained affect the deviant subject’s motivation to be candid, equivocal or deceitful. Thus, it would be as unwarranted to maintain that addicts responses are invariably valid as it would be to assume that they are invalid when appropriate research procedures are employed.” (p.653)

### **Introducing Social Criterion Theory**

An examination of the effects of context and sensitivity on self-reported attitudes towards drugs, was the aim of recent research by White and Davies (1997). The study was based on the principles of “Social Criterion Theory” (Davies and Best 1996).

Social criterion theory postulates that the mechanisms underlying verbal reports about attitudes, opinions and intentions, i.e. issues of social perception, closely correspond to the mechanisms underlying verbal reports concerning physical perception (found for example in psychophysics laboratory experiments). Psychophysics proposed Signal Detection (SD) theory to explain why subjects do not produce the same verbal reports in response to the same stimulus (e.g. locating a light or sound) in repetitive laboratory experiments. SD theory distinguished between “the detectability



of the stimulus and the criterion for response". In terms of a laboratory experiment this can be explained as follows. If a subject is rewarded for successful detection of a signal they will become more motivated to claim detection of the signal even when its presence is dubious; this will result in an increased number of "false positives". If the context is changed, for example punishing "false positives", a shift in criterion takes place, with the subject less likely to respond to the signal.

An example from an applied setting is found in a study by Shibli (1992) in which drug users were asked to report life events. In the uncued condition the mean number of events reported was 7; in the cued condition use of a check-list produced a mean of 49 events. In terms of signal detection theory, the two conditions vary in signal strength, with the check-list providing the clues with which to access the "signal" (response). In any situation people are more likely to find something you want provided that they are told what to look for.

Davies and Best claim the processes involved in decision making extend across different research settings from the laboratory to social situations. Considering the amount of available information which can impede on the decision-making process, the context becomes an influential "frame of reference" from which to establish meaning and subsequent response. Therefore, the "social criterion for response" involves using contextual cues to make a decision about how to respond.

The White and Davies study recruited 132 school children who were randomly assigned to one of three groups (i) questionnaire, (ii) interview, and (iii) peer discussion group. All subjects across each settings were asked the same 10 questions (concerning drug use) which could be divided into three types: attribution, cessation and legalisation questions. Questions were scored according to the positive (2 points) negative (no points) and ambiguous (1 point) attitudes expressed in the question responses. Results found significant differences according to context and gender:

"... the data suggest that the reported attitudes are sensitive to the context of asking. Information is also provided indicating that males are more context-sensitive to the issue of popular youth drugs than females; and also that questionnaires may provide cueing for more negative statements than do face to face and group settings." (White and Davies 1997, p.17)

In terms of social criterion theory, these results demonstrate that different question responses are more or less likely according to the available



contextual cues. Furthermore the cues will change if the context changes, thus producing a criterion shift.

This study also demonstrated the cueing effect questionnaires could have on subsequent attitude reporting. An earlier study demonstrated this finding. The Fast Forward Peer Research Project (1995) found significant differences in reported attitudes to drugs across gender, age and according to the order of presentation of a questionnaire or interview. One of the key findings in this data was that presenting a questionnaire **first** cued subsequent interview responses:

“Participants who completed the questionnaire prior to taking part in the interview expressed significantly more negative attitudes towards drugs in the interview than those who had taken part in the interview before completing the questionnaire. Therefore, the questionnaire appeared to have cued participants into reporting negative drug attitudes in their interviews.” (Best *et al* 1995)

Anderson, Aiken and Davies (1981) provided evidence of an alcohol problem discursive “script”, which was shown to be readily produced by both problem and *non*-problem alcohol users, the implication being that the “script” could be socially learned and did not depend on direct personal experience. This finding formed the basis for the hypothesis that such scripts are used strategically, in ways that make sense according to the setting. McConnachie (1997 Ph.D. thesis) devised a study to test this hypothesis. Subjects (N=60, all male) were subdivided into three groups according to heavy, light and problem drinkers (see previous chapter for more procedural details of this study). Results found, as predicted, when contextual differences were operating, i.e. between problem drinkers and heavy drinkers (agency v. non-agency), statistically significant differences between scores were found. When there were no contextual differences, i.e. between the heavy and lighter drinkers (both non-agency), there were no significant differences in scores. It would appear the adoption of the “addicted” script owes more to the context than to levels of alcohol consumption.

To refer back to the Davies and McAllister (1992) study discussed in chapter three, this study provided clear evidence of an attributional shift according to clinical classification, thus offering further evidence of the effect context can have on explanations for behaviour. Data was collected for this study using two different methods, a forced choice attributional questionnaire and an

unstructured interview which elicited “natural” attributions by means of open-ended “why?” questions; however, it was the data from the questionnaire which was used in the statistical analyses. Although the findings from this study are not under question, the first author was to subsequently point out (Davies 1996) that attempts to methodically examine and make sense of the unstructured accounts in this particular study proved to be unproductive, and highlighted the need for:

“a principled and replicable way of analysing the natural discourse obtained in minimally structured interviews within which the specific demand characteristics imposed by forced-choice checklists, boxes, 5-point scales and so forth were absent.” (p.6 Davies 1996)

Thus far, the discussion has reiterated the conclusion of chapter three, which presented a growing body of evidence to support the notion that attributional discourse is functional, subject to contextual effects, the Davies and McConnachie study cited above is the latest evidence supporting this assertion.

However, the evidence for context-dependent discourse is not only found in attribution research studies. Other researchers focusing on the validity of verbal reports have drawn similar conclusions regarding the functionality of discourse, with reports demonstrating the process of response editing as a consequence of a variety of intervening variables, i.e. interviewer effects (Johnson and Parsons 1994).

Having established that discourse is functional and context-dependent, the theory of social criterion is advanced to explain the motives behind the variability found in verbal reports. Social criterion theory is based on “signal detection” borrowed from psychophysics. In essence, similarities are drawn between the underlying mechanisms found in the verbal responses given in signal-detection laboratory experiments and the underlying mechanisms found in verbal reports elicited from the interview situation. Basically, the process of verbal reporting across diverse research settings is dependent on the available contextual cues.

The notion that verbal reports will differ according to context creates a major problem for research. In the case of measuring attitudes, for example, researchers assume by asking questions and recording the responses given; this will provide them with a “measure” of the inferred mental state. However, the validity of this approach is dependent on such internal entities



to be stable and consistent and, as has already been shown, this is not the case. In addition, to complicate the issue further, if the researcher cannot accurately establish the meaning and reliability of reported attitudes, then to use reported attitudes to assess behavioural intention (Fishbein and Ajzen 1975) seems ineffectual.

To quote from a paper by Davies and Best (1996):

“... if one accepts Eiser and Gossop’s (1979) notion that addiction explanations are socially generated and have significant consequences for those who self-attribute in this way, not only is the explanation seen as contextually motivated, its variance between contexts is also likely to be predictive of future behaviour.”

This idea underpins the theoretical base upon which an attributional theory of addiction was developed. Fundamental to the theory is the notion (discussed at length in chapter three) that attributional explanations for behaviour can be primarily functional and context dependent rather than “true” statements.

It was therefore imperative that the theory offers a means of understanding attributional explanations which does not rely on the “true/false dichotomy”. It is in this respect that the theory differs significantly from other research methodologies employed in the interpretation of verbal reports.

The remainder of this chapter outlines the development of a principled and replicable method of coding attributional discourse, which reveals the motivational basis underlying the discourse without recourse to establishing veridical content. The approach is particularly concerned with reducing the artefacts and criterion problems which can occur with the use of more highly structured research methodologies. Recent empirical research with drug and alcohol users has shown the approach to be testable and replicable; it is predicted that the model could be adapted for application to other problem behaviours. The approach is referred to as the Functional Discursive Model. In keeping with Eiser’s assertion that the explanations which surround the concept of addiction are “socially generated”, the functional discursive model claims to be a social model because the discursive accounts upon which it is based occur within particular socially defined contexts. The model is characterised by a progressive sequence of discursive accounts which form five distinct stages. Because of the successive nature of the substance users discourse, categorising an individual according to their attributional



discourse into a particular stage, allows predictions to be made regarding their future substance using behaviour.

“The hypothesis is that different stages in the natural history of addiction, as it occurs within a Western/UK context, require particular types of explanatory discourse from the individuals involved.” (Davies *et al* 1994)

### **The development of a method for the Principled Analysis Of Discourse**

The Functional Discursive Model of addiction was developed at Strathclyde University (Davies, Best, Crugeira and McConachie 1994), and utilises a predictive form of discourse analysis which allows individuals to be categorised at a particular stage within their substance using career, according to their explanation structures. By examining contextual variations in the individuals discourse shifts, the motivation underpinning specific discursive acts is revealed and these can be used as predictors of subsequent behaviour.

This is consistent with an attributional approach in which the subject's explanations for their past behaviour act as determinants of future behaviours by revealing salient motivations and expectations in the individual's substance-using context. Therefore, as mentioned earlier the model differs both in methodology and in underlying philosophy from that of the Transtheoretical Model: in contrast to forced choice self-report questionnaire items it relies on the coding of responses to attributional-style questions.

This method has its historical origins in a series of studies carried out at the Centre for Applied Psychology at Strathclyde University, examining a range of contextual issues in the verbal reports of problem substance users. These include an investigation into the influence of researcher style on the self-report of heroin users (Davies and Baker 1987) and an examination of the effects of labelling smokers as “light” or “heavy” on subsequent substance-related perceptions (McAllister and Davies 1991). More recently, several further studies have added to the empirical evidence supporting the proposed functional and contextually dependent nature of substance users discourse; all these studies are reviewed in chapter three.

The first stage of the development of the Functional Discursive Model involved the recruitment and interviewing of 275 drug using subjects across

four geographical regions. Interviews were carried out in a variety of locations, for example treatment centres or participants own homes (always the choice of the subject).

The interviews were carried out by informally dressed interviewers, who made the interviewee aware that they had no connection with any treatment agency or professional body. The longitudinal study involved two follow-up interviews, although attrition over the 2-year period resulted in diminished numbers by the third round of interviews.

Early pilot interviews varied in duration sometimes lasting over an hour, this led the researchers to the decision to restrict interviews to approximately 15 minutes, very long interviews were considered less manageable because they resulted in too much information. Also, in terms of the future potential of the model in applied settings, reliance on long interviews would be a disadvantage.

Interviews were unstructured, with no fixed format and no set questions; “why” type questions were asked to encourage natural attributional statements from the subject. The interview would always begin with a simple “What are you using?” or “Can you tell me what you’re on?”, after which the direction the interview took would be dictated more by the subject than the interviewer (unless the conversation strayed too far from the subject matter). It was anticipated that this approach would result in discourse which was of increased salience to the subject and not the researcher.

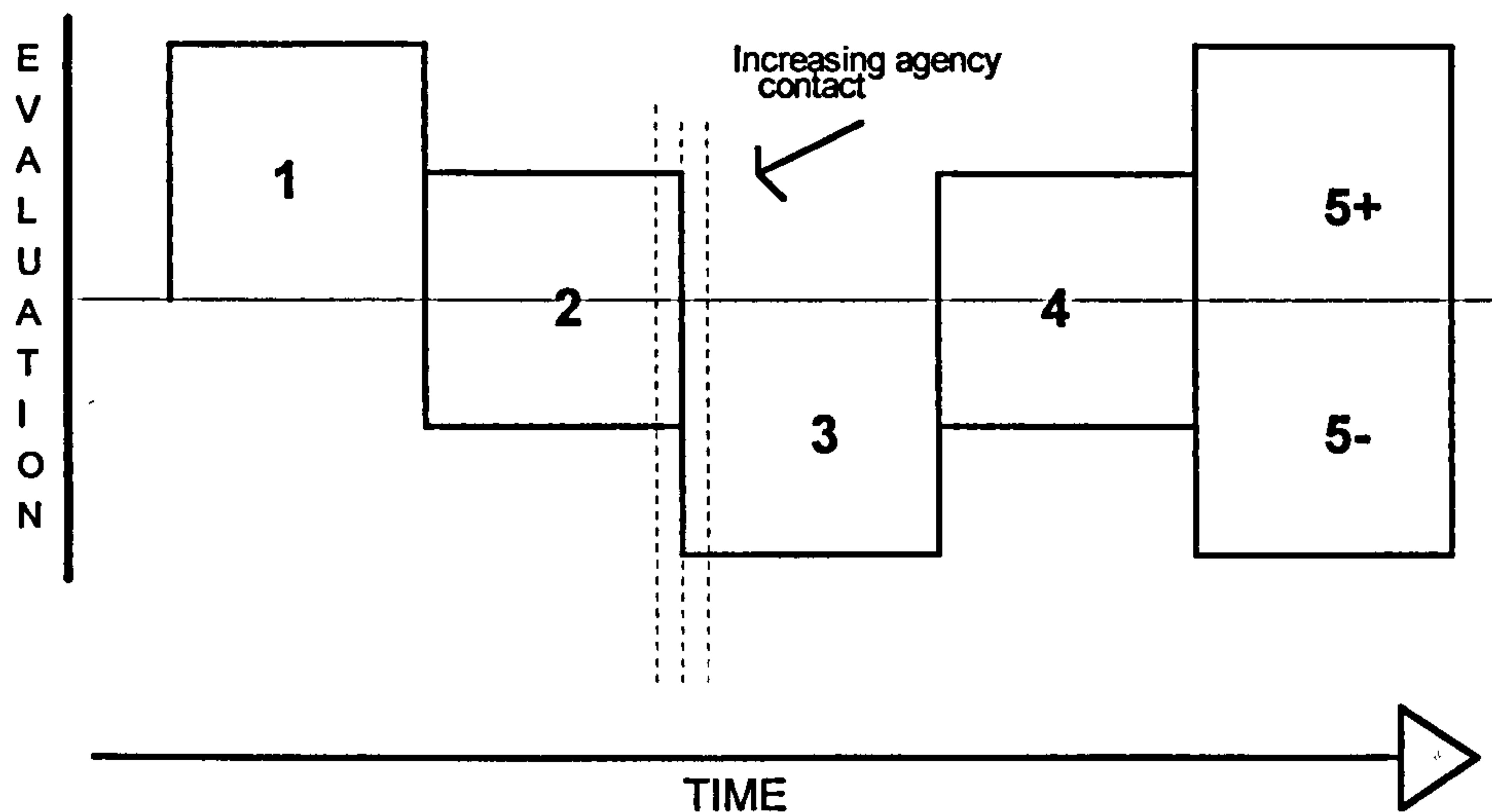
Interviews were then transcribed and analysed in order that a classification system could be devised which could be used to code the underlying functional dimensions, not the actual meaning of the discourse.

“There is no assumption that such a functional system represents some higher order ‘truth’, nor that ‘truth’ inheres either in the transcripts or in our interpretation of them..... The drugspeak model is merely intended to be empirically useful in so far as it links conversations, which are classified according to type rather than content.” (Davies 1997, p.63)

The model is based upon a framework comprising of six boxes, these boxes represent a progression of stages, each stage is characterised by a different type of discourse.



Figure 1: Discursive model of substance users discourse



(source: Davies 1997, p.94)

In order to distinguish the discourse “type” the model utilises seven dimensions onto which the discourse is coded. Dimension profiles then allow allocation to a box/stage. The dimensions will be discussed later, but the model can be represented diagrammatically as shown in figure 1.

The passage of time, which is unspecified (i.e. it can be weeks, years or a lifetime), is represented by the horizontal axis. The vertical evaluation axis represents the addiction dimension, which forms a dichotomy with + representing non-addicted and - representing addicted. Therefore, boxes 3 and 5- are the addicted stages, boxes 1 and 5+ non-addicted stages, and boxes 2 and 4 will be characterised by dialogue which will be one or the other.

Progression through the whole model can only take place once, although subcycling around parts of the model is very common, for example between stages one and two, and stages three and four. It is not possible to return to stages one or two after occupying stage three, because this stage represents the unequivocal adoption of “addicted” discourse, even when such discourse is no longer present, i.e. stage five positive, an individual cannot return to a state of never having adopted the “addicted” discourse.

For the remainder of the discussion the boxes diagrammatically presented in figure 1 above will be referred to as discursive stages. However, any reference to being “in” or “at” a particular stage is simply a means of



conveying the type of discourse produced. The distinct stages do not exemplify any internal “state” nor is the veridical content of the discourse at any stage relevant.

### Descriptive dimensions

In order to code conversations with drug users the authors of the model selected seven easily definable dimensions, which could be applied to the discourse in a methodical and replicable way.

The dimensions are: Time, Generalisability, Purposiveness, Hedonism, Reductionism, Contradictoriness, and Addicted Self Ascription.

Coding the discourse on each dimension reveals differences according to discursive type which, in most cases, makes discursive stage allocation self-evident. Difficulties in classifying the discourse arise when coding across the dimensions is incomplete or ambiguous, either because the dialogue lacks any information relevant to the dimension or it contains too much contradictory information.

However, the vast majority of coded discourse will fit with the dimension profiles given in the table below and thus yield a recognisable discursive stage.

Table 4.1: Profile of dimension scores across discursive stage

	<u>STAGE</u>					
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5+</u>	<u>5-</u>
TIME	Pr	M	P	M	Pr	P
GENERALISABILITY	Lo	M	Hi	M	Lo	M
PURPOSIVENESS	Hi	M	Lo	M	Hi	Lo
HEDONISM	Hi	M	Lo	M	M/Hi	Lo
REDUCTIONISM	Psy	M	Soc/ Phy	M	Psy	?
CONTRADICTIONESS	Ab	Pr	Ab	Pr	Ab	Ab
ADDICTED SELF ASCRIPTION	Ab	Ab	Pr	Pr	Ab	Ab

Key: Pr=Present, M=Mixed, P=Past, Hi=High, Lo=Low, Psy=Psychological, Soc=Social, Phy=Physiological, Ab=Absent

(Source: Davies 1997, p.100)

Brief descriptions of each dimension are given in terms of alcohol use.

### Time

The time dimension, coded as either past, present or mixed, has nothing to do with when alcohol use started, rather whether the reasons given for the alcohol use lie in the past or present. So, for example, "I started drinking when my marriage broke up ..... in 1985" is a past explanation, and "I drink because I work in a pub" is a present explanation.

### Generalisability

The generalisability dimension is concerned with the number of different reasons to which the individual attributes his/her alcohol use. High generalisability is exemplified by a combination of various reasons such as personal, environment, family, employment, etc. Low generalisability is coded when only one or two reasons are present in the discourse.

### Purposiveness

Purposiveness is concerned with the individuals perceived control over their drinking, explanations expressing a loss of self-control or willpower are coded as low purposiveness. High purposiveness is demonstrated by reasons for drinking which imply choice.

### Hedonism

The hedonism dimension is concerned with the reported enjoyment in drinking. Thus, if alcohol use is attributed to its pleasurable effects, for example "I drink because I enjoy it" or "I like drinking, I enjoy the effect" the transcript would be coded as high in hedonism. Conversely, when a transcript contains an attribution such as "I don't really like drinking anymore, but I need too", this would be regarded as low hedonism.

### Reductionism

The reductionism dimension is coded differently from the four previous dimensions, three forms of reductionism (psychological, social and physiological) are coded as present or absent in the transcript. An example of psychological reductionism would be "I drink because I'm depressed/bored". Social reductionism would be something along the lines of "I drink because all my friends drink" or "Drinking's something to do". Physiological reductionism overlaps to a certain extent with the addiction dimension. If physiological reductionism is present then the transcript will contain reasons for drinking explained in terms of a physical need such as "hooked", "addicted", "dependent", "craving", etc. A transcript may contain one, two or all three types of reductionism.

### Contradictoriness

Contradictoriness is coded as either absent or present and refers to the propensity for contradiction in the explanations an individual gives for their drinking. Contradictoriness can apply to any of the other six dimensions. So, for example, if a transcript contained an attribution which would code as high on the hedonism dimension, then at a later point a contradictory attribution relevant to hedonism was made (i.e. an explanation low in hedonism), this would amount as contradictoriness within the transcript as a whole.

### Addicted self ascription

As with contradictoriness the addiction dimension is coded as either absent or present. As a rule, addicted self ascription is not readily expressed in the dialogue by the use of the word “addiction” or “addict”. Therefore, less overt discourse conveying the presence of self ascribed addiction has to be used to code the addiction dimension, for example attributions like “need to drink” or “can’t stop drinking”, having to drink a certain amount of alcohol, craving alcohol, experiences of withdrawals, expressing dependence, etc. A common expression used by members of Alcoholics Anonymous is the claim to be “powerless over alcohol” (Step one of the AA 12 Step Programme of Recovery).

The coding mechanism devised by the authors of the model (see Table 4.2 below) was primarily for use with drug users because the initial study (mentioned above) was concerned mainly with drug-using subjects.



**Table 4.2: Coding mechanism for use with transcribed interviews from drug users.**

<b>CODING MECHANISM</b>						
1) ID:						
2) SEX:						
3) LOCATION:						
4) PRESCRIBED DRUG USE:	i) METHADONE ii) DIAZEPAM iii) TEMAZEPAM iv) OTHER				AMOUNT	
5) STREET DRUG USE:	i) HEROIN ii) METHADONE iii) TEMAZEPAM iv) DIAZEPAM v) ECSTASY vi) LSD vii) SPEED viii) COCAINE ix) CANNABIS x) ALCOHOL xi) SOLVENTS xii) OTHER				FREQUENCY	
6) INJECTION:						
7) OVERALL ASSESSMENT						
					<i>Circle the appropriate</i>	
<i>number</i>						
8) PURPOSIVENESS:	1 HI	2	3	4	5 LO	
9) HEDONISM	1 HI	2	3	4	5 LO	
10) GENERALISABILITY:		1	2	3	4 LO	5
11) TIME:	1 PRESENT	2	3	4	5 PAST	
12) REDUCTIONISM:					<i>Tick beneath all that are</i>	
<i>appropriate</i>						
	PSYCHOLOGICAL	PHYSIOLOGICAL			SOCIOLOGICAL	
13) ADDICTION:						
14) CONTRADICTIONNESS:						
15) STAGE:						
16) What stage do you predict this subject will be in at next interview:						

(source: Davies 1997, p.72)

Because the use of the coding mechanism in the current study was with an alcohol-using subject sample, questions (4) (5) (6) and (7) on the coding sheet were found to be less relevant, and these were therefore disregarded during the coding procedure.

Purposiveness, hedonism, generalisability and time dimensions are coded on a five-point Likert scale, from high to low (or present/past in the case of time) with the mid-way point on the scale symbolising a “mixed” score (see Table 4.1).

The coding of reductionism, contradictoriness and addiction simply involves indicating whether the dimension is present or absent.

Finally, question 15 requires a stage allocation to be made from the combination of scores across the seven dimensions

### Coding reliability

During the development of the model (i.e. prior to this thesis), different methods had been suggested to ensure the coding system was reliable and “robust”. First, the holistic approach involved assessing the transcript as a whole and deciding which type of script it was from the verbal descriptions of the six discourse types. This test of coding reliability involved four research workers who had assisted in data collection for the study previously outlined on page 38. Twenty randomly selected transcripts from the pool of 275 were given to each of the four research workers. Each transcript was allocated to a discursive stage based on the descriptions for each of the six stages.

Table 4.2 below provides a summary of the results of this exercise:



Table 4.2

Subject	J	M	D	F	Consensus
1	1	1	1	1	4/4
2	1	1	1	1	4/4
3	1	1	1	1	4/4
4	4	4	4	3(4)	3/4
5	3	3	3	3	4/4
6	4	4	3(4)	3	2=2
7	1	1	1	1	4/4
8	1	1	1	1	4/4
9	2	2	2	2	4/4
10	4	4	4	4	4/4
11	5-	4	4	3	
12	3	4	3	3	3/4
13	2	2	2	2	4/4
14	2	4	4	4	3/4
15	3	3	3	3	4/4
16	4	3	3	4	2=2
17	2	1	2	2	3/4
18	4	5+	4	5+(4)	2=2
19	5+	4	5+	5+	3/4
20	2	2	2	1	3/4

(Source: p98 Davies 1997)

The consensus demonstrated in the above table was considered “encouraging” by those involved. However, subsequent attempts to teach the coding system as it stood at this point, were less successful. This was attributed to the lack of a tangible criterion with which to guide the decision making process.

The second stage in the development of a replicable coding system involved the researchers defining seven descriptive dimensions. These dimensions would form a replicable means of assessing stage position, because each stage could be characterised by a different pattern of scores (Table 4.1 on page 41 illustrates the pattern of dimension scores across discursive stage). These patterns can be found in Davies (1997 op cit; page 104-105) and illustrate the predicted and actual patterns of dimension scores across discursive stage (using data from the study introduced on page 38 of this thesis). With the exception of one dimension, predicted and actual dimensional profiles were closely matched. The discrepant profile was found to be the “time” dimension. The “time” dimension was initially predicted as a return to “present” for individuals at stage 5+. This proved not to be the case as actual profiles demonstrated that the dimension “time” remained in the “past”. This result prompted the necessary adjustment to the patterning of

dimension scores across discursive stage. The outcome of this process produced a coding mechanism dependent on forced-choice Likert rating scales. This procedure afforded a more standardised approach to the coding of the transcripts.

For the third reliability check, one of the researchers trained a post-graduate to apply the coding mechanism. A random selection of 47 transcripts were coded by both individuals, with the following results:

**Table 4.3**

	Same	1 dis.	2 dis.	3 dis.
Stage	33	12	2	0
Purposiveness	27	15	4	1
Hedonism	24	16	7	0
Generalisability	23	19	4	1
Time	29	11	7	0
	Same	1 omission	2 oms.	3 oms.
Reductionism	21	18	5	3

Table 4.3 demonstrates the number of agreements and disagreements between the two raters. When total agreement was not achieved a figure of disagreement is recorded; signifying the difference between the two raters (in terms of the number of points apart on the rating scale). For example, “1 dis.” signifies the raters to be 1 point apart on the rating scale or stage allocation.

While “reductionism” remains a feature of the coding mechanism at this stage of its development, the dimension appeared somewhat redundant in terms of facilitating stage allocation.

Pearson correlation co-efficients for the rating of dimensions coded on the Likert scales and stage allocation, were as follows: stage 0.90; purposiveness 0.87; hedonism 0.77; generalisability 0.83; time 0.82 (all significant at  $p < 0.001$ )

The authors concluded from the above results that the coding mechanism developed was now communicable to others who had no prior knowledge of the model. To conclude therefore, it would appear from the evidence described the system is “robust” and replicable. “Thus whether one uses forced choice rating scales or holistic descriptions as the basis for ones coding, we may expect with some confidence that the same types of results will be obtained.” (Davies 1997, p.74)



## **Five stages of the Functional Discursive Model**

The five discursive stages are each characterised a distinct type of discourse, with the exception of stage five which contains two contrasting discursive outcomes, each is outlined below.

### **Stage One**

A large proportion of the population take legal and illicit drugs and do not as a consequence experience any problems. Regardless of the amount used and the periods of time involved, hedonism and purposiveness remain high and generalisability low in stage one discourse. In addition, addicted self ascription and contradictoriness are absent and the discourse is stable and consistent across different circumstances and situations.

In the case of drug use, stage one discourse is most commonly found among younger adults and teenagers and is restricted mainly to the weekend use of recreational drugs in settings such as pubs, clubs and raves. However, in terms of alcohol use stage one discourse is found equally across all age groups, in part, one may assume, because of the difference in society's acceptance of alcohol use compared with illicit drug use.

Movement towards stage two is characterised by an attributional shift in discourse, as the individual begins to attribute problems in their life to their drug or alcohol use.

### **Stage Two**

Stage two discourse begins to attribute developing problems to continued substance use. The hedonistic pleasure of previous recreational drug and alcohol use becomes mixed with the costs in terms of increasing tolerance, financial burden, possible legal proceedings or strains on relationships. Stage two is characterised by contradictory discourse which offers positive or negative attributions according to the context and function of the dialogue, for example between fellow drinkers and disapproving others.

For many individuals such problems can be resolved before the individual seeks refuge in "addicted self ascription". A return to the non-problematic use of stage one is a feasible outcome since the boundary between stage one and stage two is a permeable one, allowing the potential for continuous cycling between the two stages. However progression into stage three is irreversible, the boundary between stage two and three forms the distinction

between “non-addict” and “addict”. Once the “addicted” discourse has been adopted an individual can never be a person who did not adopt it, regardless of whether or not it is still present.

### Stage Three

Transition into stage three is the most significant of all the stage progressions, it represents the “point of no return” in that the only way out of the model is to continue through stages four and five. The individual now self ascribes to the stereotypical “drug addict” or “alcoholic” image. This will be legitimized by some external body such as a treatment agency, court, hospital services or, in some cases (when an individual avoids professional contact), the “addiction” is validated by significant others. Stage three discourse is stable and adheres closely to addicted explanations, with hedonism and purposiveness low, generalisability high and reductionism always at the physiological level. The discourse contains an emphasis on the inevitability of the drug/alcohol use, evoking AA disease/illness type explanations. Most stage three discourse is produced by individuals in agency contact, and the authors of the model suggest that type three discourse may even be a prerequisite for entering agency contact. However, the current study with alcohol users found many examples of subjects already in contact with services at stage two. This could be interpreted as an example of the differences between the approaches to alcohol and drug use, with alcohol use occupying a more sizable (and acceptable) place in society, more services are available to address alcohol problems at an earlier stage in their development.

However, sooner or later the individual reaches a point when stage three type discourse, namely the addiction label, fails to meet all their requirements and can not adequately justify all their actions.

### Stage Four

Stage four is a period of reappraisal during which the contradictoriness of stage two becomes evident again as the individual will vary the addiction explanation according to circumstances. As in stage three, addicted self ascription is also a defining feature of stage four but hedonism and purposiveness are increasing. The individuals substance use often appears more chaotic but self-image will be improving because some of the despair



and helplessness of stage three has given way to optimism regarding the possibility of overcoming one's problems.

As with stages one and two it is possible for individuals to cycle around stages three and four indefinitely as treatment programmes produce some degree of success followed by relapse. The two alternative routes out of this cycle both involve termination of the existing relationship between the individual and the agency who confirmed their addicted status.

### Stage Five

Stage five divides into either positive or negative. When an individual progresses into stage five positive they disown the "addict" label. Stage five positive discourse describes drug or alcohol use in terms of high purposiveness, high hedonism and consistent across context, as found in stage one discourse. Any discursive reference to "addiction" will be in the past tense. Personal experience of the addiction system has made salient to these individuals the potential costs and problems of substance use which they now report to be free from.

Conversely, stage five negative results if the individual is rejected by the agencies which originally offered treatment for their "addiction". The individual discovers the "addict" label is no longer functional because the legitimizing bodies have ceased to acknowledge their addicted self ascription, labelling them instead as "bad" and beyond agency help. This group form the addiction system's failures, the best an individual in stage five negative can hope for is that another agency will legitimate their claims to "addiction" and allow them to re-enter the model at stage three. The most poignant example of an individual who is most likely to produce stage five negative discourse is the "down and out", the permanently inebriated drinker living on the streets. However, the authors of the model concede that, to date, dimension profiles for this group are somewhat inconclusive because initial studies have not contained enough data to allow a clear picture of stage five negative discourse to emerge.

To summarise this chapter, the development of a principled method for the analysis of discourse offers a method of classifying the natural attributions of substance users, which makes no assumptions regarding the truthfulness of the discourse. It is a model which attempts to combine the richness of data

collected by qualitative methods with the increased robustness and accuracy of more quantitative methods. Early investigations of reliability and applicability of this system have shown high levels of agreement between judges in the allocation of subjects to the appropriate stage, indicating at least the potential for wider applications in clinical contexts.



## **Chapter 5**

### **The Transtheoretical Model of Change**

The Transtheoretical Model of Behaviour Change (Prochaska 1979, Prochaska and DiClemente 1982) was developed in response to the growing divisions within psychoanalysis which many theorists believed could adversely affect the discipline of psychotherapy. The model offers an innovative approach to understanding and promoting behaviour change by providing an integrative framework which consists of three interacting dimensions (stages, processes and levels of change). Furthermore, the model includes additional core constructs that are already established as critical variables in the process of behavioural change.

Since its conception almost 30 years ago the Transtheoretical model has become one of the more influential and widely used models in both empirical research and clinical practice.

The Transtheoretical model, or Stage of Change model as it is more usually called, has been applied to a variety of problematic behaviours, including smoking (Prochaska and DiClemente 1983, Prochaska and DiClemente 1984), weight control (O'Connell and Velicer 1988, Prochaska and DiClemente 1985), cocaine use (Harlow and Minugh 1989), psychological distress (Prochaska and DiClemente 1985), psychotherapy (McConaughy, Prochaska and Velicer 1983), condom-using behaviour (Redding, Rossi, Velicer and Prochaska 1989) and alcoholism (DiClemente, Gordon and Gibertini 1985). The stages of change concept has also been tested with self-initiated and therapy-assisted changers (DiClemente and Prochaska 1985, DiClemente and Hughes 1990).

#### **The need for an integrative approach to psychotherapy**

Of the many different ways of defining what is meant by "Psychotherapy", the following quote is described as the working definition adopted by Prochaska and his colleagues:

"Psychotherapy is the informed and intentional application of clinical methods and interpersonal stances derived from established psychological principles for the purpose of assisting people to modify their behaviours,

cognitions, emotions, and/or other personal characteristics in directions that the participants deem desirable.”

(Norcross 1990, p.218)

By the end of the 1970s the growth and popularity of psychoanalytical therapies was clearly evident, with reports of over 200 different therapies in existence. While this proliferation in the availability and choice of therapies could be seen as a positive phenomenon in terms of the development of psychotherapy, and in increasing its accessibility, the extensive range of choice presented its own problems. Selecting an appropriate therapy from a continuously growing range of alternatives became an increasingly difficult and confusing task. In addition, there were concerns about the scope of some of the more diverse therapies.

Contemporary proponents of psychotherapy (Goldfried 1980, 1982, Bergin 1981, Garfield 1981, Strupp 1981) recognised that the discipline was in danger of total disintegration and called for “a systematic eclecticism based on what is common to all forms of effective therapy” (Prochaska and DiClemente 1994, p.1).

In other words, a need was identified for an integrative model which could successfully reconcile, within an intellectual framework, the most beneficial, functional and applicable systems of psychotherapy available from the extensive range of psychoanalytic therapies on offer at that time.

The eclectic tradition thus far had been criticised for failing to demonstrate a model which could be used for systematic research or in clinical practice. The development of the transtheoretical approach to therapy aimed to meet this criticism by promoting an integrative framework which included the best of existing therapies.

Between 1977 and 1979 James Prochaska and his colleagues conducted an extensive comparative analysis of 18 foremost therapy systems and a critical review of 300 therapy outcome studies. Psychotherapy systems were evaluated and compared according to the processes or combination of processes they employed to produce change, examining also the level of required change in terms of personal functioning. From this work, extracting the best from existing therapies, an integrative perspective on the structure of change evolved - hence the term transtheoretical. The resulting book “System’s of Psychotherapy: A Transtheoretical Analysis” (1979) presents a comprehensive integrative model of change, which has firmly established



itself as a ubiquitous and popular model. It is a model which endeavours to explain the structure and process of intentional change with respect to the cessation or acquisition of a wide variety of behaviours.

### **Basic assumptions of the transtheoretical approach**

(1) Prochaska argues "progress in psychotherapy is most likely to be evolutionary rather than revolutionary." (1992, p.2) In other words, progress is achieved by learning from and expanding on knowledge gleaned from preceding psychoanalytic theories; this, Prochaska claims, is a core feature of the transtheoretical model. Seemingly irreconcilable approaches such as affective, behavioural, cognitive, relationship, dynamic and experiential can all make a valuable contribution to an integrative approach to therapy.

(2) The transtheoretical approach is fundamentally concerned with the process of intentional change, at the expense of understanding how maladaptive behaviours are acquired, which is the most usual focus of psychotherapy. The concept of intentional change lies with the individual, i.e. self-change, and is not a developmental, societal or imposed change.

(3) The transtheoretical approach does not believe change is possible by simply adopting the minimum of treatment processes, development of the model resulted in the identification of 10 *processes* of change distributed across four *stages* of change and five *levels* of change.

(4) The transtheoretical approach claims to be a fully comprehensive model of change and argues that an understanding of unassisted change is equally as important as change resulting from therapeutic intervention.

(5) The Transtheoretical Model must lend itself to empirical research, without empirical validation the innovative eclectic approach of the model can not refute or respond to it's critics.

### **The dimensions which form the basis of the Transtheoretical Model**

The Transtheoretical Model is based on three integrative dimensions. The first dimension differentiates between different *stages of change*. The second dimension introduces the option of using various intervention strategies (which are determined by an individual current stage of change) called the *processes of change*. Finally the third dimension referred to as



*levels of change*, represents five hierarchical levels of psychological problems which are addressed during treatment.

Of the three dimensions which collectively form the Transtheoretical Model, the current research focuses exclusively on the stages of change dimension. However, in order to fully appreciate the function and value of the stages of change, it is necessary to also consider the other dimensions (processes and levels of change).

This chapter will then proceed to examine in greater detail the stage of change dimension and the relationship between stages of change and other key change constructs such as self-efficacy, temptation and decisional balance.

### **Processes of Change**

The change processes are sometimes reported as forming the first dimension of the transtheoretical model; on other occasions they have been referred to as the second dimension after the stages of change. However, the processes of change dimension are in effect so closely linked with the stages of change one could argue that neither dimension is operational without the other.

The stage of change dimension represents *when* attitudes, intentions and behaviours change and the processes of change dimension illustrates *how* such changes occur.

“A process of change represents a type of activity that is initiated or experienced by an individual in modifying thinking, behaviour, or affect related to a particular problem” (Prochaska & DiClemente 1986, p.164)

The comparative analysis of the 18 foremost psychoanalytical therapies mentioned earlier found individual therapy systems to be radically different with regard to establishing what needed to be changed through therapy. However, when it came to establishing what needed to be *done* to realise the desired change, the level of consensus across therapy systems was high (Prochaska 1979).

Initially, 13 processes of change were selected; five test items were created for each of the processes and applied to groups of self-changers and therapy-assisted changers of smoking behaviour (DiClemente & Prochaska 1982, Prochaska et al 1982). Principal component analyses revealed 10 distinct processes of change.

The 10 change processes of transtheoretical therapy:

1. Consciousness raising
2. Self-reevaluation
3. Social reevaluation
4. Self-liberation
5. Social liberation
6. Counter-conditioning
7. Stimulus control
8. Contingency management
9. Dramatic relief
10. Helping relationship

(Prochaska & DiClemente 1994, p.35)

(1) Consciousness raising is the most commonly utilised process of change, with 16 of 18 psychoanalytical therapies regarding consciousness raising as a fundamental approach in facilitating behaviour change. Consciousness raising involves maximising the available information by means of feedback and education.

(2) Self-reevaluation is an affective and cognitive assessment of the pros and cons involved in making behavioural changes.

(3) Social reevaluation involves the individual assessing the effect that the problem has on other people.

(4) Self-liberation involves a commitment to act and an increased belief in one's own ability to succeed in that commitment.

(5) Social liberation results from changes made in society by empowering individuals and groups.

(6) Counter-conditioning is the process of changing the way individuals respond to certain stimuli by replacing the conditioned response with a non-problematic alternative, for example relaxation techniques can be used to replace anxiety.

(7) Stimulus control involves avoiding or transforming the environment to minimise the cues which evoke a conditioned response.

(8) Contingency management is the rewarding of one's self or being rewarded by others, rather than the use of punishment, (also called reinforcement management).



(9) Dramatic relief is the cathartic reaction to events in the environment, which produces a change in subsequent behaviour.

(10) Helping relationships (or the therapeutic relationship between the client and therapist) must feature trust, honesty, warmth and understanding.

The 10 processes of change can be seen as a succinct but comprehensive summary of the spectrum of techniques individuals, in therapy or without therapy, employ to assist them in making a behavioural change. For example, Prochaska *et al* (1988) identified 130 techniques used by self-changers in smoking cessation, all of which could be summarised to fit the 10 change processes.

The change processes are both cognitive and behavioural coping activities which vary in the contribution they make in effecting change, according to individual stages of change.

The processes of change were empirically tested across three distinct problem areas, smoking, psychological distress and obesity (Prochaska and DiClemente 1985). The change processes employed in changing each problem area were found to be used with surprisingly regularity. For example, consciousness raising, helping relationships and self-liberation were the processes utilised most, with contingency management and stimulus control of least value, across all problems. Significant differences across the three groups did occur when examined independently of each other, with helping relationships and consciousness raising more important in overcoming psychological distress than for smoking cessation and controlling obesity.

In addition to establishing that individual processes demonstrate a difference in utility according to the type of problem that requires changing, the most important finding to result from discriminating between the use of different change processes was that the applicability of each process varies according to stage of change.

For obesity problems and smoking cessation, the relationship between processes, stages of change and type of problem, revealed self-liberation, stimulus control and helping relationships to be used more during the action stage. Consciousness raising was used most frequently by contemplators but obese contemplators used counter-conditioning earlier than smokers.

The main difference between smokers and obese groups with psychologically distressed individuals was found to be in the increased use

of interpersonal control for distressed individuals and their reduced need for stimulus control, with helping relationships being the most important process during the action stage.

As a result of much research examining the relationship between processes and stages of change the authors of the Transtheoretical Model claim:

“To date, the stages and processes of change constructs have been validated on each problem behaviour to which they have been applied. This includes smoking, weight control, psychological distress, alcohol abuse (DiClemente and Hughes, 1990), exercise (Sonstroem, 1987, 1988, Marcus 1990, Marcus *et al* 1990), and a broad range of DSM III psychiatric disorders (McConaughy, Prochaska and Velicer, 1983, McConaughy, DiClemente, Prochaska and Velicer, 1989). The consistency of these finding supports the assumption that the stages of change model can serve as an integrative theme for accelerating change in a broad range of problem behaviours.” (Prochaska and DiClemente 1992, p.25)

The integration of processes and stages of change is illustrated in table 5.1 below.

**Table 5.1: Stages of Change in which Change Processes are most emphasised**

	Stages of Change			
	Precontemplation	Contemplation	Preparation	Action
Maintenance				
Processes	Consciousness raising  Dramatic relief  Environmental reevaluation	Self-reevaluation	Self-liberation	Contingency management  Helping relationship  Counterconditioning  Stimulus control

Prochaska and Norcross (1994, p.467)

Table 5.1 demonstrates which change processes are used most often during each stage of change. The appropriate matching of intervention to stage of change could be considered the most important and valuable characteristic of the Transtheoretical Model.

Precontemplating individuals are frequently referred to by treatment agencies as "resistant". This is because precontemplators spend less time than other groups reevaluating themselves, are less open of their problems to others and are unwilling to acknowledge the negative side of their behaviour. Therefore, in order to move an individual from precontemplation to contemplation, change processes such as consciousness raising and dramatic relief would be most effective. Movement from precontemplation to contemplation probably requires the greatest changes of all those required for stage movement, incorporating cognitive, affective and evaluative processes in order to bring about significant changes in attitude.

Self-liberation is important in preparing for the action stage, closely related to self-efficacy - an individual must come to believe they can effect a change. The action stage is characterised by the more behaviourally



orientated processes of change, such as counterconditioning, contingency management and stimulus control. Finally, maintenance involves continuing to use the processes of change adopted in the action stage, with the helping relationship being of particular value in supporting changes made thus far and in minimising relapse.

The application of different processes of change at different stages of change exemplifies how different therapy systems can be successfully integrated and practised simultaneously. While classical psychoanalysis may appear incongruous with radical behaviourism, the processes of change juxtaposed across stages of change demonstrate how insight (consciousness raising in precontemplation and contemplation) and overt action (counterconditioning and stimulus control at action and maintenance stages) can be reconciled and consequently complement each other.

A questionnaire to assess the processes individuals employ in making changes in their behaviour has been developed. The basic format of the questionnaire can be adapted according to the specific problem, e.g. alcoholism, over-eating, psychic distress and smoking (Smoking Processes of Change scale (SPC), DiClemente and Prochaska 1985, Prochaska *et al* 1988). This is necessary because, as mentioned already, process activity will invariably differ depending on the type of problem behaviour. The questionnaire usually consists of four or five items concerned with activities that represent the 10 processes of change, individuals are requested to indicate on a five-point Likert scale how frequently each activity occurs. The processes of change questionnaire has been used to examine change processes used prior to therapy and subsequently in therapy and has also been found to predict successful movement through the stages of change.

### **Levels of Change**

The third dimension of the Transtheoretical Model addresses levels of human functioning, i.e. the level to which a psychological problem is attributed. Individual systems of psychotherapy have each tended to focus on a single level of psychological functioning, for example behaviourists usually focus on symptoms and situations, attributing problems to either of these determinants. Cognitive therapists are primarily interested in maladaptive cognitions and family therapists regard interpersonal and family/systems conflicts the level at which a change in behaviour is required.

Just as the Transtheoretical Model acknowledged and utilised different (and previously conflicting) psychotherapeutic intervention processes, the eclectic nature of the model dictates intervention also be selected from a choice of levels.

The authors of the transtheoretical model argue that much of the research surrounding the attribution of problem behaviour is restricted to only two levels in such examples as situational or dispositional causality in attribution theory (Jones and Nisbett 1971) or external /internal locus of control in locus of control theory (Rotter 1966).

The Transtheoretical Model recognises five levels of change, the relevance of each varies for different individuals and different problems. Intervention can occur at any level, although the symptom/situational level is generally considered first because at this level behavioural changes are found to be more immediate owing to the current nature and increased conscious awareness of the problem.

The levels of change are conceptualised as a hierarchy of five levels, the first level of symptom/situational problems is the most contemporary and involves greater insight of the problem. Movement down the levels is associated with an increase in unconscious conflicts and problems of a more historical origin. The authors of the model predict making changes at "deeper" levels will involve more intensive psychotherapy. Furthermore changing beliefs and attitudes held for a long time is more difficult because it can threaten an individual's self-esteem, evoking feelings of vulnerability which often result in resistance to therapy.

Lack of successful change at one level actuates a shift in emphasis to the next level, however the levels are not considered distinct from each other as it is often found change at one level can produce change at one or more other levels.

## 5 Levels of Change in Transtheoretical therapy

1. Symptom/situational problems
2. Maladaptive cognitions
3. Current interpersonal conflicts
4. Family/systems conflicts
5. Intrapersonal conflicts

(Prochaska and Norcross 1994, p.470)

Just as different processes of change are more readily applied at different stages of change (see table 5.1), the leading therapy systems employed by different levels of change vary in their applicability according to stage of change.

Table 5.2: Integration of Psychotherapy Systems within the Transtheoretical Model

Levels	Stages of Change				
	Precontemplation	Contemplation	Preparation	Action	Maintenance
Symptom/situational					Behaviour therapy
Maladaptive cognitions	Adlerian therapy		Rational-emotive therapy Cognitive therapy		
Interpersonal conflicts	Sullivanian therapy		Couples communication Transactional analysis		
Family/systems conflicts	Strategic therapy		Bowenian therapy		Structural therapy
Intrapersonal conflicts	Psychoanalytic therapy	Existential therapy	Gestalt therapy		

Prochaska and Norcross (1994, p.475)



Table 5.2 illustrates where different therapy systems are most usually applied across each stage of change, different therapies will therefore be more appropriate according to an individual's level of change and stage position.

An individual's level of change is assessed by means of a clinical interview which explores each of the levels. According to the authors of the transtheoretical approach:

"The levels of change represent a means of categorizing patient problems which is compatible with current DSM-III diagnosis but is somewhat more comprehensive, since it includes systems and interpersonal types of problems." (Prochaska and DiClemente 1986, p.172).

### **Stages of Change**

The notion that "change process activity" appeared to lend itself to segmentation was not a totally new concept when introduced by transtheoretical model. Originally referred to as "periods of change" this concept had been a key feature of the work of Janis (1968), which was concerned with the stages involved in the decision-making process. In addition "The Model for the Study of Personal Choice Health Behaviour" (Horn 1976) identified the following four stages in smoking cessation: "contemplation of change, decision to change, short-term change and long-term change", however, Horn's model was not subjected to any empirical research or further development.

Other prototypes of the Transtheoretical Stage Model can be identified in the work of individuals such as Cashdan (1973), Egan (1975), Dryden (1986) and Beitman (1986).

The stages of change represent a particular combination of attitudes, intentions and behaviours which relate to an individual's position within the change process. Each stage commands first that a set of tasks be completed to enable movement into the next stage and is then defined by a period of time, which can range from 1 month up to 6 months. (The authors of the model believe 6 months is the maximum length of time an individual is able to plan ahead in terms of changing health-related behaviour.) While the period of time spent at each stage varies according to the individual, the tasks to be accomplished remain constant for everyone.

The concept that recovery as a result of behavioural change requires movement through a sequence of fixed stages emerged from early work by DiClemente and Prochaska (1982), which examined smokers attempts at cessation both with and without professional intervention. This research proposed a “linear schema” of the four stages of change, as illustrated below:

Figure 5.1: Original schematic representation of the stages of change



### **The Spiral Model of the Stages of Change**

It is now recognised that individuals who take action to change addictive behaviour in most cases do not successfully maintain their gains on the first attempt. Successfully maintained behavioural changes usually result after a series of failed attempts, with premature exit from the model considered the norm rather than the exception during an individual’s early endeavours to change their problem behaviour. For example Norcross and Vangarelli (1989) found among New Year resolver’s that many individuals will attempt the same resolution for five or more consecutive years before maintaining their behavioural goal for more than 6 months. Schachter (1982) found, on average, self-changing smokers make three or four action attempts before moving into maintenance.

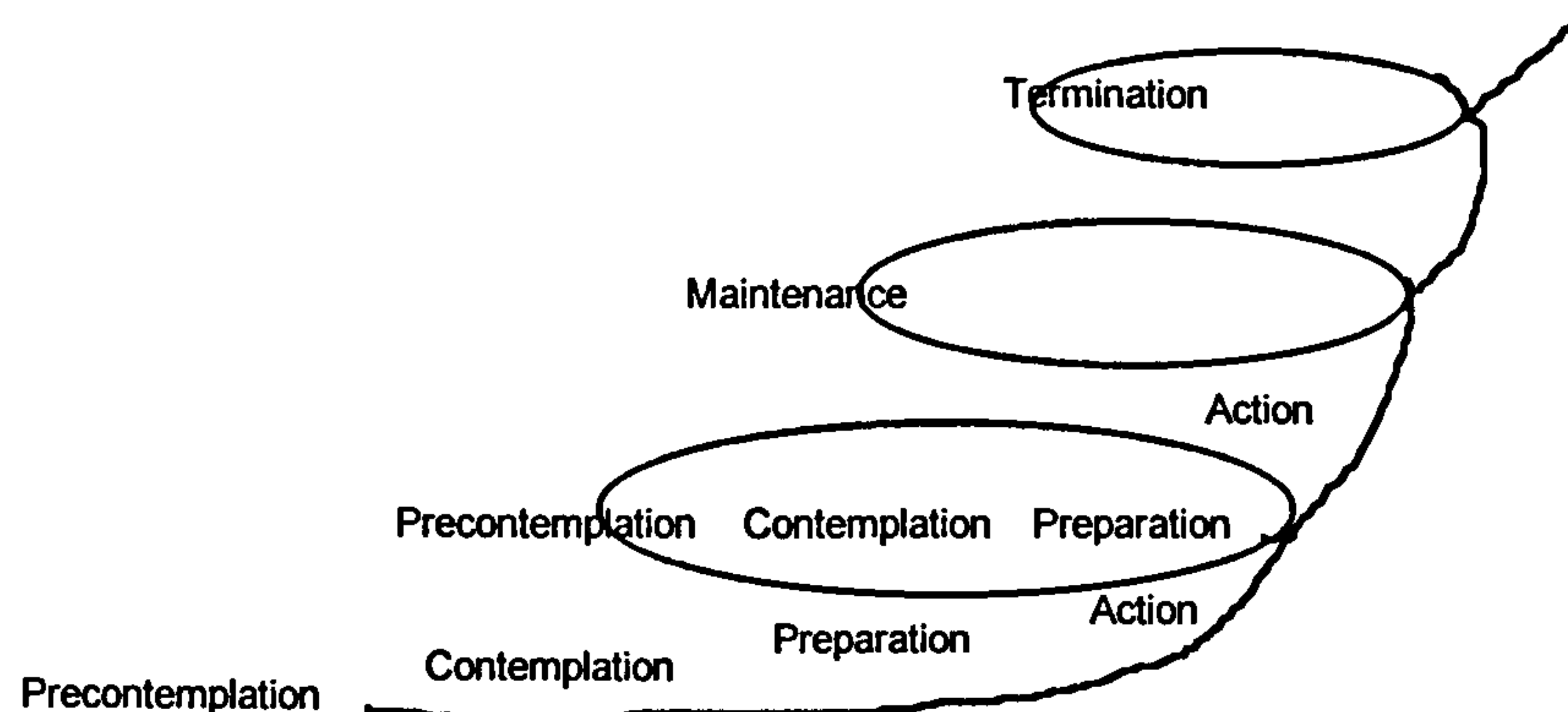
Prochaska and DiClemente (1979) originally conceptualised change as a result of a linear progression through the stages. However, they subsequently realised that linear progression is the exception rather than the rule, particularly with addictive behaviours, as relapse and recycling through the stages frequently occurs as individuals strive towards changing problematic behaviours. The original model was therefore modified to a spiral model which allows relapse but does not mean the individual revolves endlessly in circles by regressing back to where they started. This is because there exists the potential to learn from the mistakes that contribute to each relapse, an individual therefore restarts with more knowledge each time, thus increasing their chances of success on the next attempt.



Nevertheless, some relapsers are left feeling inadequate and guilty and as such become demoralised to the point they reject all thoughts of change and return to precontemplation, where they remain indefinitely.

Research found approximately 15% of smokers who relapsed returned to precontemplation but, more importantly, 85% of smokers recycled back to contemplation or preparation. (Prochaska and DiClemente 1984, 1986)

Figure 5.2: A Spiral Model of the Stages of Change



## **Precontemplation**

Precontemplation is the first stage in the stages of change model. Precontemplators have no intention of changing their behaviour, at least not in the following 6 months; they may not yet have experienced any negative consequences as a result of their behaviour and believe they are in control and could change at any time. These characteristics of precontemplators make them the least likely to respond to treatment interventions and to progress into the next stage of change, as the individual must first recognise they have a problem to be changed and accept responsibility for it.

For precontemplators the pressure to change will invariably come from families, friends, employers, etc.; this is usually resisted because to admit a problem exists involves coming to terms with an awareness of losing control, this in turn evokes feelings of hopelessness and lowered self-esteem. Consciousness raising is therefore the predominant treatment feature of precontemplation.



To move from precontemplation to contemplation can also evoke the fear of failure, when an individual recognises they have lost control over some part of their life, and subsequently contemplates making changes this brings with it the realisation that they may not succeed.

When presentation for treatment results from the threat of losing ones job, the effect the behaviour is having on the relationship with a spouse, parents or children, or to minimise the severity of pending criminal proceedings, then the individual may demonstrate a change in behaviour until the pressure subsides.

“If precontemplators want to change anything at all, they are likely to want to change others.” (Prochaska and DiClemente 1994, p.25)

This is therefore the most difficult stage for the therapist as precontemplators are defensive and guarded, being the least receptive to suggestion. They may, however, appear keen to be involved in helping to change others, for example parents in family therapy are often more concerned that their children change, dismissing any need to address their own problems.

## **Contemplation**

Contemplation forms the next stage in which individuals are aware that a problem exists and acknowledge they need to change their behaviour; they are not ready to commit to action within the next 30 days but will consider it within the next 6 months. Contemplators are in what is referred to as “decisional balance”: they are evaluating the pros and cons of their behaviour along with the sacrifices and rewards changing it will bring. According to Prochaska and DiClemente contemplation is:

“...knowing where you want to go but not quite ready yet.” (Prochaska, DiClemente and Norcross 1992, p.1103)

A characteristic of contemplators is their willingness to talk about and accommodate as much information about their problems as they can. They seek reassurance that there is a solution but are reluctant to submit to action until they feel they have achieved a greater understanding of their problems. Individuals can stay in contemplation indefinitely, never progressing to action; for some, the struggle between their positive evaluations of addictive behaviour and the costs in terms of effort, energy and loss, are never resolved and they are referred to as “chronic contemplators”. Often fear of

failure can hinder a contemplator's attempts to take action and so they may remain in a state of ambivalence regarding the behavioural change they acknowledge needs to be made. One Prochaska and DiClemente study (1985) followed 200 self-changers in contemplation for 2 years.

## **Preparation**

The earliest research by Prochaska and DiClemente (1982) identified five stages:

precontemplation, contemplation, *decision making*, action and maintenance. However, repeated use of principal component analyses "consistently found only four scales" (McConaughy et al 1983, 1989). Prochaska and DiClemente admit to misinterpreting this data and as a result for 7 years they worked with only four stages, excluding the stage between contemplation and action. They later acknowledged that cluster analysis with the same data had repeatedly revealed groups of individuals who formed an intermediate stage between contemplation and action as a result of scoring highly in each of these stages.

"Unfortunately we paid more attention to principle component analyses rather than the cluster analyses and ignored the preparation stage. Recent research has supported the importance of assessing preparation as a fifth stage of change. (Prochaska, DiClemente and Norcross 1992, p.1103)

Therefore, the stage of change model now includes five stages, with preparation the revised name for decision making.

Individuals in preparation have not yet reached the point at which they can subscribe to effective action such as total abstinence or cessation of the problem behaviour. Nevertheless, such individuals are preparing to make a commitment to change their behaviour by considering action within the next 30 days and will demonstrate this by making smaller behavioural changes, for example smoking fewer cigarettes a day.

## **Action**

Action is the stage when the most visible and overt progress is made, this stage requires an increased commitment of time and energy by the individual to successfully modify their behaviour, experiences or environment and thus resolve the problem. Self-esteem will usually increase



from that of previous stages because the individual is effecting a change and experiences increased motivation and self-efficacy.

Because modifications to the problem behaviour are most noticeable in the action stage a common misinterpretation is to equate action alone with change, without consideration of the preparatory work prior to action and the maintenance work that follows.

Successful actioners require the skill to use key processes such as counterconditioning and stimulus control to break existing habits and subscribe to more productive behaviour. They need to be aware of the potential obstacles to maintaining effective action and need strategies to prevent a slip-up becoming a relapse which returns them to previous levels of problem behaviour.

Movement into the action stage follows a successful attempt at changing problem behaviour from 1 day to 6 months. However, for some addictive behaviours (e.g. smoking) simply reducing the frequency of the behaviour does not count as an action attempt because a successful resolution is most commonly measured by cessation of the problematic behaviour. This inflexibility is open to the criticism that there should be scope for a goal of controlled substance use, particularly in areas of drug abuse.

## **Maintenance**

Maintenance is the stage in which individuals have to work at preventing a relapse, and need to consolidate the achievements of the action stage. While viewed as the most static of the stages in the model it still involves working towards behavioural changes as there remains a risk of relapse.

“Stabilizing behaviour change and avoiding relapse are the hallmarks of maintenance.” (Prochaska and Norcross 1994, p.463)

Maintenance is often the most prolonged stage extending from a minimum of 6 months sometimes indefinitely. Some individuals will struggle against relapse for months or years and others will remain stuck in maintenance for a lifetime; while never returning to problem behaviour they are never free of the fear of relapse.

In terms of smoking cessation, research found a period of 3 years to be the average length of time self-changers spent in maintenance before the temptation to smoke was low enough to allow movement to the termination stage. (Prochaska and DiClemente 1983)



Maintaining behaviour change can be particularly difficult when an individual is surrounded by environmental cues which are triggers for the problematic behaviour. Bearing in mind that the authors of the model claim “relapse is the rule rather than the exception”, those individuals who seek treatment at this stage usually do so because they are feeling the strain of maintaining previous gains and are worried they might relapse.

### **Termination**

Termination follows successful transition through the stages of change model. Characterised as a state of near-zero temptation across all problem situations, it represents a departure from the processes of change because the new behaviour is well established and the problem behaviour extinguished. No further time and energy are considered necessary to sustain the changes made. For most individuals who have been involved with a treatment agency, therapy will have concluded before the termination stage is reached.

### **Assessing stage allocation**

An individual’s stage position can be determined by different self report methods. The two most commonly used methods devised by the authors of the model include the stage of change questionnaire and stage algorithm. Furthermore the, model has influenced the development of numerous other instruments designed to measure an individual’s motivation to change, these have usually been specific to particular problem behaviours, most frequently alcohol. For example Heather and colleagues produced the “Readiness to Change Questionnaire” (Rollnick *et al* 1992, Heather *et al* 1993), which is described in detail in chapter 10. Another alcohol assessment questionnaire directly influenced by the stage of change questionnaire was the SOCRATES instrument (Stages of Change Readiness and Treatment Eagerness Scale; Miller 1991).

Finally, the contemplation ladder developed by Biener and Abrams (1991) is an instrument represented by a picture of a ladder with 10 rungs, the rungs denote 11 stages relating to “readiness to consider quitting”. An individual is asked to choose a rung which best describes where they currently are in terms of contemplating quitting.

According to the authors of the Transtheoretical Model:

“The use of multiple measures actually lends support for the model in that it does not confound the construct with a single measure technique.”  
(Prochaska and DiClemente 1992, p.9)

### Categorical Classification

The stage of change algorithm is a short categorical measure which consists of a series of independent statements from which the individual selects the one most applicable to them.

#### Staging Algorithm

1. I do not intend to quit alcohol completely in the next 6 months.

(Precontemplation)

2. I intend to quit alcohol completely in the next 6 months but not in the next 30 days.

(Contemplation)

3. I intend to quit alcohol completely in the next 30 days.

(Preparation)

4. I have quit alcohol use for less than 6 months.

(Action)

5. I have quit alcohol use for more than 6 months.

(Maintenance)

Empirical support for the above algorithm was provided by research which categorised different groups of subjects to a stage using the algorithm and these subjects were thereafter found to demonstrate all the characteristics which define each stage. (Prochaska and DiClemente 1984, 1986, DiClemente and Prochaska 1985)

The author of this PhD research chose not to use the staging algorithm in the current research because when employed previously in a research study with drug users, she found the correlation between stage allocation using the algorithm and stage allocation using the stage of change questionnaire revealed no association between the two measurement instruments:  $r = -.0274$   $p = .882$   $n = 32$  (author's MSc thesis 1995).

### Stage of change questionnaire (URICA)

The questionnaire developed to measure an individual's stage of change (McConaughy, Velicer and Prochaska 1983), was entitled the University of



Rhode Island Change Assessment Scale (or URICA). Assessment using the URICA involves the self-reporting of attitudes and evaluations which relate to characteristics of each distinct stage. By establishing an individual's strength of agreement towards the attitudes and evaluations expressed in the 32 URICA statements, stage position can be identified.

The 32 item questionnaire consists of four eight-item subscales, the four subscales represent precontemplation, contemplation, action and maintenance.

Items used to identify an individual as a precontemplator in the URICA questionnaire include:

“As far as I'm concerned, I don't have any problems that need changing.”

“I am not the problem one. It doesn't make much sense for me to be here.”

Contemplators will endorse statements such as:

“I've been thinking that I might want to change something about myself.”

“I have a problem and I really think I should work on it.”

Actioners will endorse statements such as:

“I am finally doing some work on my problem.”

“Anyone can talk about changing, I'm actually doing something about it.”

Maintainers will endorse statements such as:

“It worries me I might slip back on a problem I have already changed, so I am here to seek help.”

“I'm here to prevent myself from having a relapse of my problem.”

Each statement requires a response on a five-point Likert scale (strongly disagree, disagree, undecided, agree, strongly agree), thus measuring the strength of agreement to each statement. Scores for each item range from 1 (strongly disagree) to 5 (strongly agree), with total scores for each of the four subscales ranging from 8 to 40.

The URICA therefore generates a score for each of the stages of change, with higher scores denoting increased agreement/endorsement for that particular stage. According to the authors of the model:

“The benefit of this interval, multiple subscale assessment is that it can better assess degrees of intention and attitudes related to change. However, with this type of scale it becomes more challenging to classify individuals into a single stage.” (Prochaska and DiClemente 1992, p.13)

URICA subscale scores can be used in different ways, either independently or in conjunction with other subscale scores, although the authors comment

that to use the stage scores independently means losing “.....important information about the relationship among the subscale scores.” Therefore, most of the research using the URICA as an assessment instrument has applied cluster analysis to discriminate between different profiles of subscale scores (McConaughy *et al* 1983, McConaughy *et al* 1989, DiClemente and Hughes 1990)

“The URICA subscales and a profile analysis offer a unique perspective on assessing the stages of change. The scale has solid psychometric properties and has been used with several different populations” (Prochaska and DiClemente 1992, p.14)

Despite such claims (i.e. above quote) the psychometric properties of the URICA have been widely criticised. The views of critics such as Davidson (1996) will be detailed later (chapter 6).

The current research uses a modified version of the URICA described in chapter 10.

Classification into the appropriate stage of change is a fundamental to the success of the transtheoretical approach. Prochaska and DiClemente claim the stages of change serve the following three important functions: matching an individual to suitable treatment and predicting progress through and premature termination from treatment.

(1) Matching an individual to suitable treatment is considered critically important in resolving problem behaviours. Most treatment programmes focus on the action stage and make no provision for individuals who are not ready to take action. Prochaska and DiClemente argue everyone presenting for treatment is not the same and therefore cannot be treated as such (Prochaska 1991). Collectively, across studies and populations (Abrams, Follick and Biener 1988, Gottleib, Galavotti, McCuan and McAllister 1990, Pallonen, Fava, Salonen and Prochaska 1992) approximately 10-15% of smokers are prepared for action, 30-40% are in the contemplation stage and 50-60% are in the precontemplation stage. If these data can be extrapolated to other problem behaviours, then applying action-orientated approaches to all treatment groups will fail. In addition, successful therapy depends on client and therapist focusing on the same stage of change if each are working at different stages resistance will result (Prochaska 1991).



(2) Predicting progress during treatment was found to be dependent on the stage of change an individual occupied when entering treatment. Ockene *et al* (1988) found progress towards smoking cessation among a group of cardiac patients was related to their stage of change at the start of the 6 month period of treatment, i.e. 22% of precontemplators, 43% of contemplators and 76% of those in action or preparing for action at the start of the study were not smoking 6 months later. Ockene *et al* concluded that individuals preparing or ready for action will be more successful in achieving their goals by the end of treatment.

(3) Predicting premature termination from treatment was found to be 93% accurate using the stage-related variable, decisional balance (i.e. pros and cons of therapy), combined with processes of change scales; by comparison, selected demographic variables were found to have no predictive value (Prochaska 1991). Premature terminators are most likely to be in precontemplation at the start of treatment, as they were found to rely more on will power and stimulus control than those who successfully continued with treatment (Medieros and Prochaska 1992).

## **Stages of Change and other change constructs**

### **Self-Efficacy**

According to Bandura (1977) self-efficacy is the term used to describe an individual's learned expectations regarding the probability of success in a given situation. Bandura also proposed that the concept of self-efficacy is critical in understanding behaviour change because self-efficacy is said to influence thoughts, emotional responses, commitment and effort, and thus the behavioural performance.

In the field of addictive behaviours, the role of self-efficacy has most frequently been applied in the area of maintaining cessation of problem substance use and preventing a relapse to previous levels of problem behaviour.

Research surrounding the development of the transtheoretical model found self-efficacy to be an important variable associated with understanding and predicting successful change in addictive behaviour (DiClemente 1981, DiClemente, Prochaska and Gibertini 1985, DiClemente and Hughes 1990). The authors of the model therefore devised a measure of self-efficacy for smoking cessation, which aimed to represent an individual's level of

confidence with regard to resisting the temptation to smoke across various tempting situations. The measure used a five-point Likert rating scale to determine how confident an individual was of abstaining in each situation. This was also combined with another similar five-point rating instrument, which measured the actual temptation in the same situations. The Smoking Abstinence Self-Efficacy (SASE; DiClemente, Prochaska and Gibertini 1985) in each of its various formats demonstrated internal consistency (Cronbach alpha .88 - .92), and construct and predictive validity.

Applying the self-efficacy measure to groups of smokers showed that a 12-item version was able to predict non-smoking status for both self changers and therapy-assisted changers, between five and seven months after cessation of smoking (DiClemente 1981). Another study using a 31-item version of the self-efficacy measure demonstrated levels of self-efficacy to be significantly different according to stage of change. This study also found self-efficacy to increase and temptation levels to decrease in each subsequent stage from precontemplation through to maintenance. In addition, the same study showed self-efficacy took approximately 18 months to realise a constant level, with temptation levels taking up to three years from cessation to stabilise (DiClemente, Prochaska and Gibertini, 1985)

The inverse relationship between temptation and self-efficacy scores was confirmed by correlational analysis (-.60).

Self-efficacy scores require a different interpretation according to the stage of change, for example low efficacy scores for precontemplators would indicate the belief that successful change is not achievable, however the lack of desire to change at precontemplation will also influence this conclusion. At later stages, such as action and maintenance, the individual's self-efficacy evaluations could be considered more realistic because having made a commitment to action an individual will have established their own baseline from which to make more accurate judgments regarding their own self-efficacy.

The relationship between stage and self-efficacy as a predictor of change, found self-efficacy evaluations predicted movement into action or maintenance but were of little value in predicting earlier stage movement (Prochaska *et al* 1985).

The research also found a stage-specific relationship between self-efficacy and change process activity. Higher efficacy scores were found to correlate with increased "change process activity" for subjects at precontemplation



and contemplation stages, but for actioners and especially maintainers higher self-efficacy was found to correlate with less process activity, prompting the conclusion by the authors:

“Thus efficacy does appear to influence effort on specific change processes, dependent to some extent on stage status.” (Prochaska and DiClemente 1992, p.21)

### Decisional balance

Decisional balance is considered another change construct which makes an important contribution to the process of successful behaviour change, as represented by the Transtheoretical Model.

As with self-efficacy an instrument was developed for smoking cessation to measure decisional balance. The measure was based on Janis and Mann's (1977) model of decision making, which proposed four distinct elements in the decision-making process. When applied to groups of self-changers the 32-item questionnaire revealed only two distinct components, (i) the “pros of smoking” and (ii) the “cons of smoking” (Velicer, DiClemente, Prochaska and Brandenburg 1985).

Further refinement resulted in a 20-item Smoking Decisional Balance scale (SDB), with proven high internal consistency (alpha = .88 for the “pros” scale and .89 for the “cons” scale)

A pattern of pros and cons emerged according to stage of change, beginning with high pros and low cons for precontemplators. At contemplation, pros are still high but cons are higher still; at action, cons are also higher than pros but both are less than at contemplation. Finally, maintainers show a significant reduction in both pros and cons, with cons still outweighing pros. The authors speculate that the pros and cons for smoking by former smokers will continue to reduce if they remain abstinent.

In terms of predicting progress, decisional balance was found to be more useful in the earlier stages of change, and of less value in action and maintenance stages (Prochaska, DiClemente, Velicer, Ginpil and Norcross 1985). This contrasts with self-efficacy evaluations which proved to be a better predictor of movement through the latter stages of change.

To conclude, it would therefore appear there exists a valid and important relationship between the change constructs of self-efficacy, temptation and decisional balance with the stages and processes of change. This relationship has been empirically tested, thus revealing how the applicability

of individual change constructs in association with the processes of change are specific to the distinct stages of change.

Finally, it is worth mentioning a 2-year longitudinal research study, again with smokers, which identified four dominant patterns of behaviour change, as identified by type of stage movement:

(1) Stable patterns, this group of subjects did not move stage during the 2-year study.

(2) Progressive patterns, this represented a linear movement through the stages.

(3) Regressive patterns, demonstrated movement to an earlier stage.

(4) Recycling patterns, involved recycling two or more times through the stages of change.

(Prochaska and DiClemente *et al* 1992)

This chapter described the development of the Transtheoretical Model and its component parts, focusing primarily on the stage of change dimension. Definitions of each stage and the instruments used to assess stage classification have been detailed. Research to support the model and criticisms raised by other researchers are examined in the next chapter.



## **Chapter 6**

### **Research literature on the Stages of Change**

Much of the important empirical research evidence supporting the stages of change and associated constructs is cited in Chapter five, which describes the development, structure and application of the Transtheoretical Model. However, the aim of this chapter is to discuss in more detail the most relevant and significant research papers published by the authors of the Transtheoretical Model and their associates. The second part of this chapter examines research evidence produced by other researchers, some of which presents a more critical view of the stages of change.

Of the research surrounding the Transtheoretical model one of the key papers of the early 1980s was a report published in the journal Psychotherapy: Theory, Research and Practice, which described the development of an instrument designed to measure the stages of change (McConaughy, Prochaska and Velicer 1983). While the stages of change had already been identified by the authors of the Transtheoretical Model as forming a critical dimension of psychotherapy, there was no adequate measure to assess the particular stage an individual was in at any given time, hence the development of a scale called the Stages of Change Questionnaire (in other works the questionnaire was called the URICA).

A total of 165 items were generated from the conceptual definitions of five stages: precontemplation, contemplation, decision making, action and maintenance (previously defined by Prochaska and DiClemente 1982). Three judges familiar with the definitions of each stage judged which stage each item represented, 100% agreement for 145 of the 165 items was achieved, from which 25 items per stage (125) were selected for the next stage. The analysis involved three stages of elimination to result in a 32-item questionnaire with eight items per stage. From the five original theoretical stages, decision making was removed because principal component analysis failed to demonstrate it as a distinct stage. (This decision was later revised).

With a sample size of 155 subjects, principal component analysis demonstrated that the four scales accounted for 58% of the total variance. Internal consistency reliability coefficients for each of the four scales were as follows: precontemplation .88, contemplation .88, action .89, and maintenance .88.

Cluster analysis produced nine autonomous profiles which accounted for 140 of the 155 subjects (90%). Finally, Pearson correlation coefficients revealed that adjacent stages correlate more highly with each other than with non-adjacent stages. These results were presented as evidence of (i) the existence of four discrete stages of change, and (ii) the validity of the Stage of Change Questionnaire as an instrument capable of categorising an individual into one of the four stages.

In 1989, the authors of the 1983 research (McConaughy *et al* ) carried out a follow-up study, with the intention of replicating the 1983 findings with a larger (N=327) clinical sample. Although less impressive, the results confirmed the original findings. Principal component analysis revealed that the four scales accounted for 45% of the variance. Internal consistency reliability coefficients for each scale were as follows: precontemplation .79, contemplation .84, action .84, and maintenance .82. Seven of the original nine client profiles were found using cluster analysis and, finally, the pattern of correlations between stages remained the same.

The authors claim the results from the second study cross-validate the Stages of Change Scales.

“The replication of the original research suggests that the stages of change do describe persistent clinical characteristics of clients starting therapy, and could therefore be taken into consideration by clinicians and researchers involved in implementing therapeutic change.” (McConaughy *et al* 1989, p.501)

In addition, the correlation coefficients and the replication of the clusters is presented as evidence that the stages of change form an invariant simplex pattern.

Most of the early research involving the stages of change, processes of change and related constructs such as self-efficacy, temptation and decision making focused chiefly on smoking cessation. However, the model was later applied to other addictive behaviours and then extended to other types of behaviour change, not just cessation of a problem behaviour but adoption of new behaviours for example safer sex.

DiClemente and Hughes (1990) evaluated the applicability of the stage of change questionnaire with subjects entering outpatient alcoholism treatment, concluding that:



“Results indicate that the URICA can be used with individuals who come to treatment for alcoholism problems and yields a series of five distinct profiles of subjects defined by a cluster analytic procedure. These five groups have stage of change profiles clearly related to the precontemplation, contemplation and action stages of change and are quite consistent with theoretical considerations.” (p.232)

In a more recent study, also with alcoholics, Willoughby and Edens (1996) aimed to assess the predictive utility of the URICA since this was not addressed in the DiClemente and Hughes (1990) study. However, they were unable to draw any conclusions about the predictive utility of the URICA; this, they speculated, was because they could only find two cluster types in the data, rather than replicating the five clusters identified by DiClemente and Hughes.

Prochaska *et al* (1990) examining models of change for condom use, found the application of stages, pros and cons and self-efficacy to condom-using behaviour produced findings similar to those studies which investigated the cessation of problem behaviours. The authors claim this adds support for the proposed generalisability of the transtheoretical model across diverse behaviours.

Prochaska (1991) provided evidence of the importance of matching treatment interventions according to stage and level of change; failure to do so is demonstrated by high drop-out and low recovery rates of clients in psychotherapy. This research “Prescribing to the Stage and Level of Phobic Patients” also offered evidence of the model’s capacity to predict drop-out and therapy outcome. Stage of change assessment outpredicted variables such as “socioeconomic status, self-efficacy, social support, proportion overweight, years overweight, goals and expectations”. However, it was the processes of change which proved to be the best predictor of both outcome and drop-out. Assessment of the processes of change employed in therapy, accounted for 28% of the outcome variance (Prochaska 1991).

With the addition of the preparation stage fitting between contemplation and action, research which required stage classification to differentiate between the five stages tended to employ the staging algorithm. One presumes this was because the URICA can only measure four stages, furthermore the algorithm is much easier to administer and interpret. Thus, the staging

algorithm became the most commonly used instrument to determine an individual's stage of change for research purposes. It was also used to target groups at specific stages, for example in the study "The Process of Smoking Cessation: An Analysis of Precontemplation, Contemplation and Preparation Stages of Change" (DiClemente et al 1991). The hypothesis that significant differences across the three stages - precontemplation, contemplation and preparation - would be found for change process activity; self-efficacy and decisional balance was supported, as was the proposal to reinstate the preparation stage which had been known as the determination or decision making stage in earlier versions of the model.

Snow, Prochaska and Rossi (1992) devised an investigation to test the utility of the Transtheoretical Model in understanding the change process using a dually addicted population, i.e. smoking cessation with recovering problem drinkers. The cross-sectional analysis focused on the three stages of precontemplation, contemplation and preparation using the staging algorithm to categorise subjects. The study concluded:

"The identification of similar patterns of change with dually addicted individuals is an important step in delineating some common aspects of the change process across substantially different populations of smokers."  
(p.113)

The increasing problem of "multiple addictions" can only be addressed by a model of behaviour change which is capable of accommodating more than one problem simultaneously.

In 1995, the Transtheoretical Model was applied to larger representative samples drawn from the wider population. In many previous studies subject sampling procedures were reactive, i.e. recruitment resulted from the response of an appeal for participants. The larger representative samples were recruited using proactive telephone survey methodology, e.g. random-digit dial.

"Distribution of Smokers by Stage in Three Representative Samples" Velicer *et al* (1995) is the largest study to date, involving three geographically distinct samples totalling 18,463 subjects. Results showed a distribution across the early stages of change almost identical for each sample (precontemplation 40%, contemplation 40% and preparation 20%) which were also stable according to age group. The authors conclude such stage distribution within the general smoking population has important implications for appropriate treatment matching, with only 20% of individuals preparing to



make a behavioural change they argued most existing interventions were only suitable for this group and thus were inadequate for the remaining 80%. Another study (Fava *et al* 1995) using a representative sample (N=4,144) examined interrelationships between the principal constructs postulated by the Transtheoretical Model and early stages of change. The results of this study provided further evidence that the transtheoretical constructs can be generalised to a representative sample which the authors claim: “represents an important step for both construct validation and intervention implementation.” (p.190)

Responding to suggestion that subtypes may exist within the stages of change (Heather 1991), Velicer *et al* (1995) conducted a study to investigate typology of subjects within each stage, using cluster analysis to examine internal validity and to determine the existence of different types of smokers in each stage. Results demonstrated similar relationships between stage of change, processes of change and pros, cons and temptation constructs, as had been found previously between stages. Because on this occasion the results were demonstrated within stage, i.e. between subtypes in each separate stage, the authors interpreted these findings as further empirical support for the model in its five stage format:

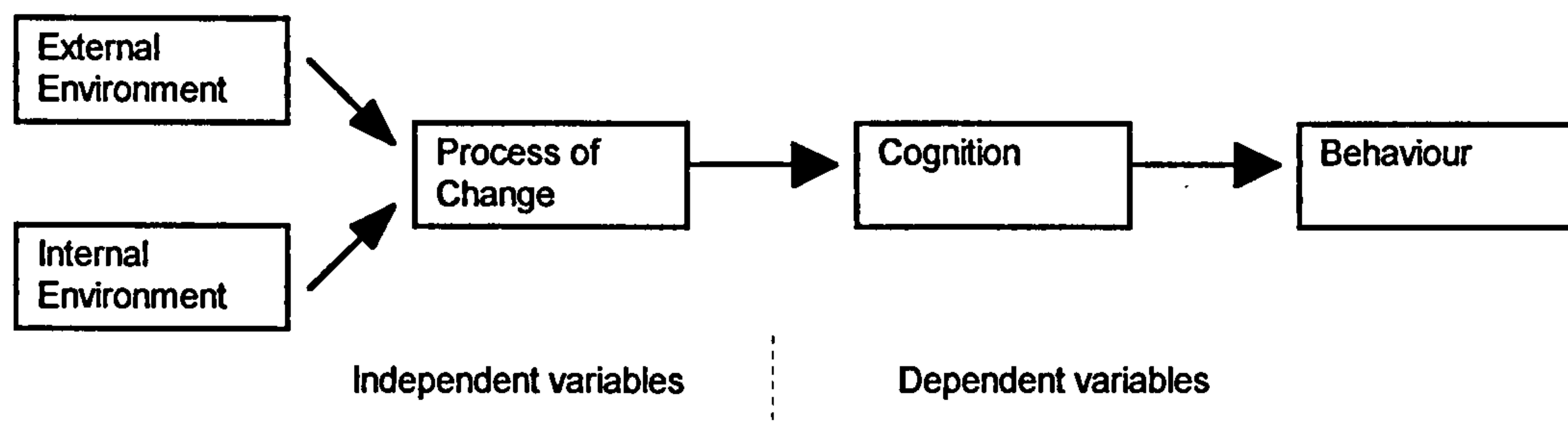
“The stages can be viewed now as representing truly discrete stages in temporal ordering. The stages were reproduced empirically. Within each stage a cluster was found that corresponds directly to what was expected for that stage.....The presence of subtypes has potential utility for the design of interventions. We can view interventions as ranging from broadly targeted interventions to individually tailored interventions.” (p.318)

The examination of the research supporting the Transtheoretical Model could continue further as the 15-year period from the early 1980s well into the 1990s, saw a seemingly endless supply of published studies by Prochaska and DiClemente and their many associates. However, for the purposes of the present research the main evidence produced by the authors to support the Transtheoretical Model has been discussed.

One final piece of research, which is of less relevance to the current study because it deviates from the existing framework of the Transtheoretical model, introduces a three-construct model employing definitions from the Transtheoretical Model.

The Criterion Measurement Model for health behaviour change (Velicer *et al* 1996)

Figure 6.1: "An illustration of the Causal Model that relates the constructs of the Transtheoretical Model" (Velicer *et al* 1996, p.557)



brings the research surrounding the transtheoretical approach up to date and suggests a slightly different perspective on the model. This research introduces a variation in the way behaviour change is conceptualised, which the authors describe as a Causal Model.

Three different hypothetical constructs are proposed to describe the movement of an individual from smoker to non-smoker: (i) habit strength, (ii) positive evaluation strength, and (iii) negative evaluation strength. The strength of each construct is demonstrated according to its threshold level across each of four stages of change (Precontemplation, Contemplation, Action and Maintenance)

While the authors believe the relationship between the three constructs and the stages of change to be empirically proven, they add that further research is required to establish whether a similar relationship exists with other established transtheoretical variables such as the processes of change and self-efficacy.

Chapter 10 contains a brief description of the development of the "Readiness to Change Questionnaire" (Rollnick and Heather 1992) which was based on the stages of change. The research carried out to test the validity and applicability of the "Readiness to Change Questionnaire" has resulted in evidence which offers support for the stages of change, but also highlights some of its weakness.

As discussed, research carried out by the authors of the Transtheoretical Model and their colleagues established that within a representative sample



of smokers as many as 40% are likely to be at the precontemplation stage of change (Velicer *et al* 1995). If this figure could be generalised across other addictive problems, then a large proportion of the population with such problems is unlikely to actively seek treatment, simply because they do not consider their behaviour to be a problem.

Rollnick and Heather recognised the need to find a way of identifying excessive alcohol drinkers presenting to health care settings. They describe the method they devised as “opportunistic” because in many cases the individual seeking medical attention does not acknowledge their problem to be related to excessive alcohol use. The “Readiness to Change Questionnaire” is a short, easy to administer instrument which corresponds to the precontemplation, contemplation and action stages of change (Rollnick and Heather 1992). Internal consistency (Cronbach alpha coefficient) was reported as: precontemplation .73, contemplation .86, action .78. Test-retest reliability (correlation coefficients) was: precontemplation .82, contemplation .86, action .78. Product-moment correlation coefficients among stage scores: PxC  $r=-.53$ , CxA  $r=.57$ , PxA  $r=-.36$ . Higher correlation coefficients between adjacent stage scores supports the findings of McConaughy *et al* (1983, 1989) who used this pattern of correlations as evidence that the stages of change form an invariant simplex pattern.

Further research established the predictive validity of the “Readiness to Change Questionnaire” (Heather and Rollnick 1993), in a study involving an 8-week and 6-month follow-up, the Readiness to Change Questionnaire successfully predicted changes in drinking behaviour analogous to the predictive ability of the stages of change model (McConaughy *et al* 1983, 1989).

While initial research to test the Readiness to Change Questionnaire (RCQ) appeared to offer empirical support for some of the previously reported findings from Stage of Change research, in a more recent study Budd and Rollnick (1996) presented evidence to refute the simplex pattern of the stages of change. They re-examined RCQ data and subsequently postulated that readiness to change may be better considered as a continuous variable rather than forming discrete stages.

The Budd and Rollnick study (1996) provided evidence from a sample of 174 heavy drinkers that the RCQ items originally devised to measure precontemplation, contemplation and action stages from the transtheoretical model, lacked discriminant validity across the stages. This conclusion was

the result of analysing the data using a structural equation modelling program (Bentler 1989) which found 50% of RCQ items weighed significantly across all three stages. In addition, each stage was found to be highly correlated with each other (PxC  $r=-.54$ , PxA  $r=-.54$ , CxA  $r=.43$ ). These findings suggested an alternative conclusion to the claims made by the authors of the Transtheoretical Model, Budd and Rollnick suggested that the three stages lack discriminant validity and are “highly interdependent”.

Budd and Rollnick also point out that their results support the assertion made by Sutton (1996) that the stages construct is better understood as a continuous variable because of the difficulties in classifying individuals into a single discrete stage.

Sutton provides a convincing argument opposing the idea that the process of behavioural change forms a sequence of distinct stages. Sutton’s own research in the field of addictive behaviours has focused on alternative approaches to understanding behaviour change, namely the application of Fishbein and Ajzen’s “Theory of Reasoned Action and Theory of Planned Behaviour”, the central construct of which is the continuum of behavioural intention. The criticisms Sutton forwards against the Transtheoretical Model are based chiefly upon interpretation of the research publications by the authors of the model and their associates, rather than the conclusions of any independent research to offer evidence against the transtheoretical model (of which there is very little).

A seminar for alcohol researchers “Contemplating the Stages of Change” (Birmingham, January 1996) introduced speakers such as James Prochaska as well as leading British researchers in the field. In his speech, Stephen Sutton presented evidence which challenges some of the claims of the stages of change model. Sutton argued that because the different approaches to measuring the stages of change (i.e. URICA, staging algorithm, SOCRATES and the contemplation ladder) have not been tested against each other, then we do not know if the measurement of stage is consistent across instruments. With regard to the URICA, Sutton remarked of multi-item scales “.....there is a danger of people scoring highly on more than one stage, which is a problem if you believe in discrete stages”.

Sutton appears to favour the concept of a readiness to change continuum rather than discrete stages of change, for the following reasons:



(1) The use of a fixed time scale to define stages is arbitrary (see Chapter five for the categorical definition of stages, i.e. the complete staging algorithm). For example allocation to contemplation requires “.....not planning to quit within the next 30 days....”, however, no reason exists why this could not be fixed at 20 days or 40 days. If the time periods were changed this would change the division of stages and henceforth stage allocation.

(2) It is proposed that stages follow a fixed sequence, while the transtheoretical model does allow re-cycling through stages, Sutton suggests a readiness to change continuum would better accommodate progressive and regressive movement during the change process.

(3) Consistent patterns of self-efficacy scores and patterns of scores measuring the pros and cons of engaging in a particular behaviour have been used to demonstrate the existence of discrete stages. Sutton argues that the same patterns of scores for these variables interrelate with a readiness to change continuum, for example, the pattern of “pros for smoking scores” shows a rapid reduction at first then slows down further along the continuum, much in the same way as the pattern across stages.

(4) Different factors are used to predict movement from one stage to another, i.e. movement from precontemplation to contemplation involves different factors from those involved in the movement from contemplation to action. While cited as evidence for the existence of distinct stages, this does not mean that this evidence cannot be “.....translated into the idea of different factors relating to where a person is on the continuum.....” (Sutton 1996)

Sutton also points out that the Transtheoretical Model does not adequately explain how people change. It is not clear what drives movement from one stage to the next and thus he argues it cannot be considered a descriptive model

Data from the McConaughy *et al* studies (1983, 1989), which demonstrated higher correlation coefficients between adjacent stages, than non-adjacent stages, was used by the authors of the transtheoretical model to support claims that the stages form a simplex pattern. Sutton points out that in the 1989 study the correlation between contemplation and maintenance is almost as high as those between the adjacent stages.

Abellanas and McLellan (1993) tested the applicability of the URICA with a subject sample who were using three different drugs concurrently. This study found that while the results demonstrated the stage of change scales to represent “excellent internal consistency and stability across the three to five day interval for all three drug problems” (p307), there were other findings which support some of the criticisms levelled at the model.

In line with the point made by Sutton above, high correlations between non-adjacent stages were reported:

Table 6.1: Intercorrelation of stage of change by drug problem.

	<u>Contemplation</u>	<u>Action</u>	<u>Maintenance</u>
<u>Cigarettes</u>			
Precontemplation	-0.04	0.09	-0.01
Contemplation		0.51*	0.72**
Action			0.51*
<u>Cocaine</u>			
Precontemplation	-0.47	-0.33	-0.18
Contemplation		0.92***	0.69**
Action			0.62**
<u>Heroin</u>			
Precontemplation	-0.28	0.07	-0.13
Contemplation		0.29	0.54**
Action			-0.11

\* p<.05

\*\* p<.01

\*\*\* p<.001

(Abellanas and McLellan 1993, p.310)

The table above is taken from the Abellanas and McLellan research report and reproduced in this work because it contains some interesting and relevant patterns of correlations between stage scores. (Note that this particular study used raw scale scores from the URICA, unlike many other studies which for the purpose of cluster analyses often converted total sub-scale scores to standardised T scores.)

Abellanas and McLellan’s data demonstrates examples of higher Pearson correlation coefficients between scores for non-adjacent stages than adjacent stages. For example in the smoking and heroin data, contemplation and maintenance scores correlate more highly than any other two stages. Coefficients for the cocaine data show contemplation and maintenance to correlate more highly than action and maintenance, but not contemplation



and action. Although derived from a small subject sample (N=41), this is a useful study because it provides three sets of data which can be compared or analysed separately.

The results of this study also found no significant differences between scores for contemplation, action and maintenance, which the authors point out makes an unequivocal stage allocation problematic. Neither were there any significant differences in the profiles of URICA scores across type of drug problem, which was considered quite surprising in view of the “substantial differences seen in terms of frequency, recency and duration among the three drug problems.” (p.309)

One explanation for the latter finding was the possibility that the wording of URICA items which refer to an individual’s “problem” in a generic sense led to generic answers. (This point is also discussed in Chapter 10.)

A small study of polydrug users (N=32) by the current author using a modified version of the stages of change questionnaire, also provided evidence which suggests the URICA lacks discrimination in its measurement of contemplation, action and maintenance stages.

Table 6.2: Pearson correlation co-efficients between stages of change.

	<u>Contemplation</u>	<u>Action</u>	<u>Maintenance</u>
Precontemplation			
Contemplation	-.673***	-.575***	-.659***
Action		.872***	.752***
			.763***

\*\*\* p<.001

(Two Models of Change in Addiction; MSc Thesis 1995)

Correlation coefficients between each pair of stage scores were found, on average, to be higher than the Abellanas and McLellan study; however, the data reveals examples of correlation coefficients for non-adjacent stages equalling coefficients for adjacent stages, for example:

adjacent stage PxC r=-.67	adjacent stage AxM r=.76
non-adjacent stage PxM r=-.65	non-adjacent stage CxM
r=.75	

Stage scores from this study were also analysed using a related samples t-test, the resulting t-values for each pair of subscale scores gives an indication of where the greatest differences between mean stage scores lie.

Table 6.3: T-values for differences between mean scores on each stage of change.

	<u>Contemplation</u>	<u>Action</u>	<u>Maintenance</u>
<u>Precontemplation</u>	3.43**	4.36***	3.44**
<u>Contemplation</u>		2.34*	0.08
<u>Action</u>			1.82

\* p=<.05

\*\* p=<.01

\*\*\* p=<.001

(Two Models of Change in Addiction; MSc Thesis 1995)

Consistent with expectation, the differences between precontemplation scores and the other three stages are highly significant, but differences between contemplation and action scores with maintenance scores show no significant difference.

Robin Davidson, also speaking at the 1996 January Seminar for alcohol researchers, presented his concerns regarding the psychometric properties of the URICA. Davidson believes discrete stages do not “reflect the human condition”, instead, he prefers the idea of a continuum of motivation, arguing the URICA provides “spurious statistical legitimacy” to the concept of sequential stages.

He suggests the URICA is really only asking two basic questions which have been translated into a 32-item scale: (i) are you ready to change, and (ii) have you changed?

Davidson introduces notion of the “bloated specific” used to explain the effect of semantic overlap between questionnaire items. Basically, if each item means almost exactly the same as the others on the same scale, then they share specific as well as common bearings and this inevitably leads to excellent psychometric properties. Davidson claims good questionnaire items will be highly correlated but have low logical overlap and the following two questions measuring depression are used to illustrate this point:



**(1) Are you pessimistic about your future?**

**(2) Is your sleep fitful?**

**In contrast, consider the following items from the precontemplation scale:**

**(1) As far as I'm concerned, I don't have any problems that need changing.**

**(2) I guess I have faults but there's nothing that I really need to change.**

**3) I would rather cope with my faults than try to change them.**

**Similarly items from the contemplation scale:**

**(1) It might be worthwhile to work on my problem.**

**(2) I've been thinking that I might want to change something about myself.**

**(3) I have a problem and I really think I should work on it.**

**For each of the four separate subscales a positive answer to one item will logically command a positive response from the other items on that scale (high bloated specific) and result in excellent psychometric properties such as high internal consistency reliability coefficients.**

**Finally, Davidson presented the preliminary findings from a longitudinal study in Northern Ireland (N=189) which aimed to assess minimal intervention against stage-matched interventions. The results showed that the use of stage-matched interventions proved to be of no advantage over minimal interventions in maintaining abstinence among problem drinkers.**

**Sutton (1996) also questions the alleged benefits of stage matched interventions, citing research by Prochaska and associates (Prochaska *et al* 1993, Velicer *et al* 1993) which failed to find a significant difference in prolonged smoking cessation, as a result of using a stage-matched intervention package against a standardised package (abstinence rates at 18-month follow-up for the stage-matched and standardised conditions were 7% and 5%, respectively).**

**A critique of stage theories including the Transtheoretical Model's stages of change formed part of Albert Bandura's keynote address at the Annual Meeting of the Society of Behavioural Medicine in March 1995. Bandura argued that the stages of change are arbitrary "pseudo-stages" and not genuine stages because:**

“In a genuine stage theory, the characteristics at one stage are transformed into qualitatively different ones at the next stage. For example, in stage progression in biological change, a caterpillar gets transformed into a butterfly. In Piaget’s stage progression of psychological change, pre-operational thinking is transformed into qualitatively different operational thinking.” (Bandura 1995)

The first two stages of change simply represent different degrees of intention, precontemplators show *no* intention and contemplators show *some* intention to change. The action and maintenance stages are basically the same except for the duration of the adopted behaviour change, i.e. abstinent for less than or more than six months. This observation is the same as that made by Sutton, that stage classification in the stages of change model is based on the passage of time rather than a quantifiable transformation.

Bandura also claims in a genuine stage theory, passage through stages must follow an ordered sequence (the caterpillar always precedes the butterfly) and re-cycling is not possible (the butterfly cannot revert to a caterpillar). Finally, Bandura does not believe the model to be “transtheoretical” because the divergent theories upon which it is based (he argues) are incompatible. He prefers to view the model as atheoretical, viewing the stages of change as a description of behaviour rather than defining the determinants of behaviour.

With reference to the notion that progression through the stages must follow a fixed order, research which applied the stages of change to a sample of hospitalised drinkers (Orford *et al* 1992) provided evidence to contradict the following assertion made by the authors of the Transtheoretical Model: “...individuals pass *through* each stage.....individuals who successfully leap over stages such as from precontemplation to maintenance, may exist, but we have not found any.” (Prochaska 1992, p.825)

In Orford’s sample of “at risk” hospitalised in-patients 50% of patients who moved into action did so directly from precontemplation.

One final piece of research with low socioeconomic status women aimed to measure readiness and motivation to quit smoking using a questionnaire based on the stages of change (Crittenden *et al* 1994). The rationale for targeting this particular group of women came from previous research which



has shown low-SES women to demonstrate the largest increase in smoking prevalence. Distribution of subjects across the first three stages of change was consistent with existing evidence (Velicer *et al* 1995): precontemplation 41%, contemplation 32% and preparation 27%. However, the interesting feature of this study was the division of the precontemplation stage into three subcategories:

- (1) Not considering quitting or cutting down (8%).
- (2) Not considering quitting but thinking of cutting down (8%).
- (3) Considering quitting but not within 6 months (25%).

Because precontemplators appear to form the majority within many samples of the population, the authors argue it is important to be able to “make finer distinctions within this lowest stage of readiness.” (p.506)

These data could, however, be used as further evidence to oppose the notion of homogeneous stages since, as clearly demonstrated, the characteristics of individuals in the same stage (precontemplation) can show significant variation.

It would appear the most commonly cited criticism of the Transtheoretical Model lies with the concept of *stages* of change. Many authors who generally appear to support the model nevertheless make the point that the notion of discrete stages is an oversimplification. Bandura makes the point more strongly: “Human functioning is too multifaceted and multidetermined to be shrunk to a few discrete categories.”

The notion of discrete stages is fundamental to the Transtheoretical Model so much so, that when groups of individuals were found not to fit unequivocally into either contemplation or action a new stage “preparation” was fitted into the model to accommodate them.

The preferred choice of those researchers who reject the stages concept would appear to be the idea of the “continuum”. Different authors appoint a different name to explain the continuum but each can be regarded as referring to the same process; examples are “the continuum of preparedness to change” (Stockwell 1992), “.....of motivation” (Davidson 1996), “.....of behavioural intention” (Sutton 1996) and the “continuous measure of readiness to change” (Budd and Rollnick 1996).

Dispensing with categorisation into discrete stages would solve some of the problems surrounding stage classification, as the necessity to fit an individual into a particular stage would be removed. Instead, positioning an individual on a continuum could be regarded a more flexible and less determinate approach, allowing for more subtle differences between individuals to be recognised and accommodated.



## **Chapter 7**

### **The measurement of problematic alcohol use**

This chapter introduces the alcohol screening instrument used in the current study and explains why it was selected in preference to other existing and well-established questionnaires used to measure alcohol use.

#### **Established instruments used to measure alcohol use**

One of the most popular of the “alcoholism” questionnaires is the Michigan Alcoholism Screening Test (MAST) developed by Selzer (1971). The original MAST comprised a 25-item questionnaire, which has subsequently generated several variations that vary in length and format.

While the MAST was shown to correctly identify 95% of subjects who had undergone a clinical diagnosis of alcoholism (Selzer 1971), when applied to a community subject sample the MAST was found to correctly identify only 50% of those subjects experiencing problematic alcohol use (Saunders and Kershaw 1980).

The reduced accuracy of the MAST with a community sample is not too surprising when one considers the inclusion of questions such as:

“Have you ever attended a meeting of Alcoholics Anonymous?” and “Have you ever had delirium tremens, severe shaking, heard voices or seen things that were not there after heavy drinking?” (see Appendix for the 10 MAST questions that form the “Brief MAST”)

Such questions illustrate the limitations of the MAST if used with a population whose harmful alcohol use is at an early stage.

Another well-known questionnaire designed as a screening test for alcoholism is the CAGE developed by Ewing (1984). CAGE is an acronym for the four questions of which it consists: Have you felt you should cut down on your drinking? Have you been annoyed by others about your drinking? Have you felt guilty about your drinking? Have you needed a drink when you woke up in the morning (eyeopener)? While the simplicity and concise format of the CAGE has certain advantages, especially for use in primary care settings, it lacks differentiation in that it can categorise individuals only as “alcoholics” or “non alcoholics”.

Further questionnaires designed to measure alcohol dependence include the Severity of Alcohol Dependence Questionnaire (SADQ) of Stockwell, Hodgson, Edwards, Taylor and Rankin (1979), the Alcohol Dependence Scale (ADS) of Skinner and Allen (1982) and the Edinburgh Alcohol Dependence Scale (EADS) of Chick (1980). However, unlike the MAST and CAGE, each of these questionnaires are primarily concerned with rating individuals in terms of the severity of alcohol dependence, and are best considered assessments rather than screening instruments.

In common with the MAST and the CAGE these further measures of alcohol dependence focus exclusively on the “dependent”/“alcoholic” individual, and contain no provision for the “novice” problem drinker currently misusing alcohol, with whom lies the potential for subsequent alcohol-dependent behaviour.

The Alcohol Dependence Data (ADD) was devised by Raistrick, Dunbar and Davidson (1983) with the aim of redressing this imbalance.

“Greater attention should be directed to the mild/moderate dependent drinkers since they are more amenable to simple treatments, and again this highlights the need to have a questionnaire which is sensitive to the whole range of alcohol dependence.....” (Raistrick *et al* 1983, p.90)

The resulting 39-item questionnaire (ADD) was later reduced to produce a 15 item shorter version - SADD (see Appendix).

However, the short-form alcohol dependence data questionnaire (SADD), while offering greater differentiation across the continuum of alcohol misuse, was still not the ideal choice of questionnaire to meet all the requirements of the proposed research.

For the purpose of the current research an alcohol-screening instrument was needed that could fulfil the following requirements:

- (1) A limited number of questions preferably between 8 and 12.
- (2) Adequate discrimination across the continuum of alcohol use.
- (3) Information on frequency and quantity of alcohol consumption as well as binge drinking.
- (4) The questionnaire must be “user friendly”, i.e. easy to understand and complete.
- (5) Individual questions must appear non-judgemental and avoid influencing (as much as possible) a subject’s current perception of their alcohol use.



It was the authors intention that the selected alcohol-screening instrument would allow categorisation of individuals in terms of their alcohol use, without effecting a behavioural or attitude change as a result of completing the questionnaire.

While the SADD met some of the criteria listed above, the author felt the SADD questions posed an increased risk of producing dissonance among subjects who did not perceive their alcohol use as problematic. The SADD was therefore rejected in favour of the more contemporary World Health Organisation Alcohol Use Disorders Identification Test - AUDIT (Saunders and Aasland 1987). The fundamental difference between the new alcohol screening instrument and its predecessors lies in its ability to differentiate between light and heavy drinkers, in contrast to an emphasis on the identification of alcoholism. In addition, the AUDIT uses questions which do not imply the existence of alcohol dependence; this is a critically important feature of a screening instrument for use with a population who have not yet acknowledged a problem exists.

### **Development of the Alcohol Use Disorders Identification Test**

In 1980 the World Health Organisation published a report entitled "Problems Related to Alcohol Consumption: report of a WHO Expert Committee". This report highlighted the necessity for individuals whose alcohol consumption could be considered as harmful, to be detected before the health and social consequences had become irresolvable. Following early detection of harmful alcohol use, the report advocated the need for cost-effective strategies which could be implemented in primary health care settings.

These recommendations were taken a step further when, in 1982, the World Health Organisation commissioned a group of international researchers, to develop a simple screening instrument which could be used in both developing and developed countries, to identify harmful alcohol consumption in primary health care situations. The researchers reviewed a variety of national screening approaches in an attempt to select the best attributes from each.

The development of the screening instrument involved six countries which included Australia, Bulgaria, Kenya, Mexico, Norway and the USA.

During the period 1984-1985, 1905 subjects across the six countries participating in the WHO study, were recruited to take part in the first stage of the collaborative project, titled "The Identification and Treatment of Persons with Harmful Alcohol Consumption".

The screening instrument was subsequently titled the Alcohol Use Disorders Identification Test and referred to by its acronym AUDIT. The development of the AUDIT differed in a number of important ways from that of previous screening instruments:

(1) The data from which the instrument was developed were derived from a subject sample drawn from six different countries, thus covering a diversity of cultures each with their own concept of harmful alcohol consumption.

(2) Subject samples were recruited from a variety of health care settings, including Health Centres and General Practitioners, Psychiatric and General Hospitals, and emergency services.

(3) Individuals who presented at the selected health care settings for treatment of "alcoholism", or had a treatment history of alcohol dependency were excluded from the study. The reason for this was to ensure that items selected for the questionnaire had greater discriminatory capabilities than to simply distinguish between "alcoholics" and "non alcoholics".

The purpose of this carefully considered sampling procedure was to aid in the development of an effective screening instrument which could claim the following attributes, as stated by the authors of the WHO report:

"- it must be valid in the identification of subjects with harmful or hazardous alcohol consumption and those who are at risk of developing problems because of their drinking habits; it must be valid across different settings and cultures; it must be simple enough to encourage its use by health professionals; and it must be useful for the purposes of intervention." (Saunders and Aasland 1987, p.61).

In addition to the main screening instrument, i.e. the AUDIT, a second "Clinical Screening Procedure" was devised for following up cases positively identified by the AUDIT. However, because the Clinical Screening instrument involves a clinical examination and blood tests it is restricted to use in medical settings administered by trained medical staff. The Clinical Screening instrument was not required for the purposes of the current research.



The AUDIT consists of a 10-item questionnaire. Questions 1 to 3 measure alcohol consumption, questions 4 to 6 drinking behaviour, 7 to 8 adverse reactions as a result of drinking and 9 to 10 alcohol related problems. Answering questions 1 to 8 involves selecting one response from a choice of five options. Questions 9 and 10 offer a choice of three responses. Completing the 10-item questionnaire does not therefore require any handwriting and can be used as a self-report questionnaire alone or embedded in a longer questionnaire. Alternatively, the 10 items can be part of a structured or semi-structured interview.

Each question is scored from 0 to 4, with the potential to realise a total score of between 0 and 40

Below is a summary of the structure of the AUDIT questionnaire. (See Appendix for the complete 10-item questionnaire.)

### WHO AUDIT

HAZARDOUS ALCOHOL CONSUMPTION	1. Frequency of drinking 2. Typical quantity 3. Frequency of heavy drinking
DEPENDENCE SYMPTOMS	4. Impaired control over drinking 5. Increased salience of drinking 6. Morning after drinking
HARMFUL ALCOHOL CONSUMPTION	7. Guilt after drinking 8. Blackouts 9. Alcohol-related injuries 10. Others concerned about drinking

The guidelines which accompany the AUDIT questionnaire frequently refer to “harmful alcohol consumption” and “hazardous alcohol consumption”, these are relatively new terms and are defined as follows:

“Harmful alcohol consumption denotes the consumption of alcohol that is causing harm to the mental health or physical well-being of the individual. Hazardous alcohol consumption is defined as a level of alcohol consumption

or a pattern of drinking that is likely to result in harm should present drinking habits persist.” (Saunders and Aasland 1987, p.4).

“In WHO terminology hazardous use is alcohol consumption which confers the risk of physical and/or psychological harm; harmful use (an ICD-10 diagnosis) is defined by the presence of physical or psychological complications (World Health Organisation, 1992).” (Claussen and Aasland 1993, p.350)

It was necessary to determine a cut-off score for the AUDIT above which would represent a “positive” case. Identification of a positive case could then be followed up with the Clinical AUDIT Screening Test, a second positive result would indicate the need for a more comprehensive diagnostic examination.

Establishing predictive validity and determining the most appropriate cut-off point for the AUDIT was accomplished by making comparisons between AUDIT scores and information compiled from a structured interview, physical examination and laboratory results.

Receiver operating characteristic (ROC) analysis was used to examine the sensitivity (true-positive cases) and specificity (true-negative cases) of AUDIT scores. Collectively, across the data from the six countries participating in the WHO Collaborative Project, the authors decided on a cut-off AUDIT score of 8. The sensitivity of the AUDIT (across the six countries) using the cut-off score of 8, ranged from 87% to 96% for the combined index of hazardous and harmful alcohol consumption; the corresponding specificity ranged from 81% to 98%.

Two external reference groups, (i) known alcoholics and (ii) non-drinkers, were used for further validation of the proposed cut-off score; 99% of the alcoholics and only 0.5% of the non-drinkers had scores over 8.

### **Research examining the applicability of the AUDIT across different subject samples**

The reliability and predictive validity of the AUDIT in a college sample was examined by Fleming, Barry and MacDonald (1991). Using a sample size of 989 with a mean age of 20.5 years, Flemming *et al* chose a cut-off score of 11. Their results found the AUDIT to have an internal reliability coefficient of



.80 (Cronbach's Alpha), a sensitivity of 84% and a specificity of 71%. The authors of this report concluded that the AUDIT was a useful, easy-to-administer screening instrument. However, for this particular sample (i.e. young adults) they recommended raising the cut-off score to 13 to improve the balance between the numbers of false negatives and false positives.

"Screening with the Alcohol Use Disorders Identification Test in an Inner-city Population" (Isaacson, Butler, Zacharek and Tzelepis, 1993) provided a contrasting examination of the AUDIT in terms of subject sample. A total of 124 individuals (mean age of 45 years) attending a general medical clinic were recruited for this study. Patients of the clinic were usually black and of low socioeconomic status. Comparing the performance of the AUDIT with a Structured Clinical Interview for DSM-III-R, the authors found "the AUDIT performed consistently in relation to the SCID, regardless of age or gender" (Isaacson et al. 1994, p.552).

The AUDIT correctly identified 96% of subjects with current alcohol problems, using a cut-off score of 8. Sensitivity and specificity of the AUDIT's detection of current alcohol problems was found to be 96% for each. However, Isaacson *et al* also highlight the AUDIT's reduced sensitivity in identifying subjects with past histories of problematic alcohol use, they suggest the addition of "an assessment of historical alcohol use" to maximise the screening properties of the AUDIT.

A longitudinal Norwegian study (Claussen and Aasland 1993) used the AUDIT with 310 long-term unemployed (aged 17-63 years) during routine health examinations. The authors concluded that the AUDIT was a valid instrument for use in the following situations: (i) routine examinations, (ii) detection of harmful drinking, (iii) as a tool for making comparisons between groups, and (iv) measuring change over time. Comparisons with DSM-III criteria found when 11 was chosen as the cut-off score for a "positive" case of problematic alcohol use, the AUDIT had a sensitivity of 94% and specificity of 85%. Furthermore based on their own data the authors suggested the following cut-off scores: 0 to 8 "normal drinker", 9 to 18 "hazardous drinker" and 19 or above "harmful drinker".

Finally, a study by Schmidt, Kristen, Barry and Fleming (1995), suggests a lower cut-off score for the AUDIT than previous research studies. The AUDIT was used with 132 adults recruited from an out-patients hospital clinic in Madison, WI, USA. The group was mainly white with a mean age of 43 years.

Internal reliability of the AUDIT was reported as .77 (Cronbach Alpha). Using a ROC curve to determine the cut-off score, they found that for this population a cut-off score of 5 was most appropriate. A cut-off AUDIT score of 5 demonstrated a sensitivity of 61% and specificity 84%. Using the recommended cut-off score of 8 for this group reduced sensitivity to 38% and increased specificity to 95%.

### **Use of the AUDIT in the current study**

The author of the current study chose the AUDIT in preference to the other alcohol screening questionnaires available, primarily because its questions are phrased in a non-judgemental and non-threatening way. The author wanted to minimise any impact or change of attitude which might result from answering questions about personal alcohol use. Evidence of how structured questions appear to affect the reporting of attitudes (Best *et al* 1995) is described in Chapter 11.

In addition, as the AUDIT was to be combined with two other questionnaires length was another important consideration. Claussen and Aasland (1993) reported in their Norwegian study that the 10-item AUDIT could be completed in 2-5 minutes.

Another advantage of the AUDIT in terms of the current study was its format, this was similar in arrangement to the other two questionnaires which would allow the three questionnaires to be combined, without the need to give separate instructions depending on which questions were being answered.

The decision to use the AUDIT for the current study proved a successful one, as it was favourably endorsed by all the subjects who participated in the research. Feedback concerning the AUDIT questions (in contrast to other parts of the total questionnaire) was always positive.

The AUDIT does appear to have one major limitation, this being its inability to detect individuals who have previously experienced alcohol problems but are not currently drinking, i.e. abstainers of more than 1 year. It is



advantageous in primary care settings to be able to identify this group because of the risk of relapse or related long-term health problems.

One problem with the AUDIT relevant to this study, was the emphasis on alcohol use “during the last year”. Five out of the 10 AUDIT questions refer to drinking behaviour or events during the preceding 12 months rather than merely current behaviour. For example question 4:

How often during the last year have you found that you were not able to stop drinking once you had started?

Never	less than monthly	monthly	weekly	daily or almost daily
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If there has been a change in drinking behaviour during the preceding 12 months (i.e. from heavy drinking to abstinence) there exists the potential for two very different answers to both be appropriate. For example an individual may wish to answer “daily or almost daily” for the first 6 months of the year, and “never” for the second half of the year. Understandably, some recently abstinent subjects found these questions perplexing. However, this problem does not constitute a fault of the AUDIT because the AUDIT was designed for use in primary health care settings as a screening instrument for early detection of alcohol use disorders. Not with alcohol abstainers as transpired to be the case with a proportion of subjects in this study.

### **AUDIT scores in the current study**

The range of AUDIT scores from lowest to highest and the means for different subgroups within the current subject sample are given below. Subjects both in and out of agency contact who were currently drinking demonstrated similar mean AUDIT scores. A large proportion of AUDIT scores would appear to be above the World Health Organisation’s proposed cut-off score of 8, which identifies a “positive” case of problematic alcohol use. The highest AUDIT scores in the range were found to be very high almost reaching the maximum score possible of 40.

**Table 7.1: AUDIT scores for each subgroup (N=61 at time 1 and N=55 at time 2).**

**(1) Subjects with no agency contact at either time 1 or time 2:**

	<b>N=</b>	<b>Range</b>	<b>Mean AUDIT score</b>
<b>Time 1</b>	<b>26</b>	<b>11-38</b>	<b>21.1</b>
<b>Time 2</b>	<b>25</b>	<b>11-36</b>	<b>18.8</b>

**(2) Non-abstinent subjects, and subjects abstinent less than 12 months who were in agency contact at time 1 and time 2:**

	<b>N</b>	<b>Range</b>	<b>Mean AUDIT score</b>
<b>Time 1</b>	<b>23</b>	<b>5-32</b>	<b>17.5</b>
<b>Time 2</b>	<b>2</b>	<b>14-22</b>	<b>18.0</b>

**(3) Abstinent (over 12 months) subjects in agency contact at time 1 and time 2:**

	<b>N</b>	<b>Range</b>	<b>Mean AUDIT score</b>
<b>Time 1</b>	<b>12</b>	<b>0-8</b>	<b>4.3</b>
<b>Time 2</b>	<b>13</b>	<b>0-8</b>	<b>4.4</b>

**(4) Subjects who were in agency contact at time 1 but were out of agency contact at time 2:**

	<b>N</b>	<b>Range</b>	<b>Mean AUDIT score</b>
<b>Time 2</b>	<b>15</b>	<b>3-23</b>	<b>12.7</b>

Using the guidelines proposed by Claussen and Aasland (1993) AUDIT scores for subjects participating in this study illustrate extensive problematic alcohol use.

At time 1 (N=61) and time 2 (N=55) respectively; 27.8% and 30.9% of subjects scored 8 points or less, which is regarded as normal alcohol use (but most of these subjects were abstainers), 29.5% and 45.4% scored between 9 and 18, suggested as hazardous use by Claussen and Aasland (1993), and 42.6% and 23.6% of subjects scored 19 or above, suggested as harmful use. The significant decrease in harmful use and increase in hazardous use across time 1 and time 2, is likely to be a reflection of the movement of a proportion of subjects out of agency contact. This group demonstrated a reduced mean AUDIT score at time 2.

The AUDIT scores produced by subjects in the current study appear to confirm extensive hazardous and harmful use of alcohol in both agency and



non-agency groups. This is important from the point of view of the rest of the current study, which is concerned with assessing position and movement of alcohol users using two different models of addiction. It was necessary that the majority of the subject sample could be classified as problematic alcohol users (note that the use of the word “problematic” is used to portray a continuum of alcohol use, some of which could be classed as more problematic than others). While individuals in contact with a treatment agency will most certainly be experiencing difficulties with their alcohol use, finding individuals outside agency contact with comparable problematic use, is often more difficult. The AUDIT confirms that the agency and non-agency groups in the current study are fairly evenly balanced in terms of their alcohol use.

## **Chapter 8**

### **The role of self-esteem**

#### **The Rosenberg Self Esteem Inventory**

In the early 1960s Morris Rosenberg began a survey which involved over 5000 adolescents recruited from 10 American high schools in New York State. Rosenberg's objective was to examine which social experiences contribute to the formation of an individual's self-image. The increased importance of self-image during adolescent development prompted Rosenberg to use adolescent subjects between the ages of 15 and 18 for the study. Because there was no generally accepted measure of self-esteem which Rosenberg felt suitable for his research, he proceeded to construct his own self-esteem inventory.

Rosenberg's Self-esteem Inventory (RSE) is a 10-item Guttman scale, which allows an individual to be ranked along a continuum ranging from high to low self-esteem. Rosenberg defined high and low self-esteem as follows:

"When we speak of high self-esteem, we shall simply mean that the individual respects himself, considers himself worthy; he does not necessarily consider himself better than others, but he definitely does not consider himself worse; he does not feel that he is the ultimate in perfection but, on the contrary, recognizes his limitations and expects to grow and improve."

"Low self-esteem, on the other hand, implies self-rejection, self-dissatisfaction, self-contempt. The individual lacks respect for the self he observes. The self-picture is disagreeable, and he wishes it were otherwise."

(Society and the Adolescent Self-Image, Rosenberg 1965, p.31)

Rosenberg describes four important requirements of the self-esteem measure.

(i) easy to administer, (ii) ideally completed in 2 or 3 minutes, (iii) unidimensional, i.e. a single continuum, and (iv) must have face validity. These requirements were met by the resulting 10-item questionnaire.

The questionnaire instructs subjects to respond to each question by choosing one response from the four alternatives: strongly agree, agree, disagree, or strongly disagree. In order to minimise respondent set,



“positive” and “negative” items are presented alternately. Rosenberg reports the reproducibility (Guttman 1950) of the measurement scale as 92% and its scalability (Menzel 1953) as 72%.

Scoring the self-esteem measure is not simply a case of totalling scores for each question. Scoring involves the grouping of individual questions to form six scales, each scale receives a positive or negative score. “Positives” indicate low self-esteem, therefore the higher the total of positive scores the lower the individuals self-esteem.

Scale Item I consists of questions 7, 3 and 9. Asterisks indicate the positive responses for individual questions. Two or three positive responses from the three questions results in a positive score for Scale Item I. One or no positive responses results in a negative score for Scale Item I.

I feel that I am a person of worth, at least on an equal plane with others.  
 strongly disagree\*    disagree\*                    agree                    strongly agree

I feel that I have a number of good qualities.  
 strongly disagree\*    disagree\*                    agree                    strongly agree

All in all, I am inclined to feel that I am a failure.  
 strongly disagree    disagree                    agree\*                    strongly agree\*

Scale Item II consists of question 4 and 5. One or two positive responses results in a positive score for Scale Item II.

I am able to do things as well as most other people.  
 strongly disagree\*    disagree\*                    agree                    strongly agree

I feel I do not have much to be proud of.  
 strongly disagree    disagree                    agree\*                    strongly agree\*

Scale item III consists of question 10.

I take a positive attitude towards myself.  
 strongly disagree\*    disagree\*                    agree                    strongly agree

Scale item IV consists of question 1.

On the whole, I am satisfied with myself.  
 strongly disagree\*    disagree\*                    agree                    strongly agree





## **The use of Rosenberg's Self-Esteem Inventory in the current study**

Incorporating the self-esteem inventory into the larger questionnaire constructed for the current study proved quite straightforward. RSE met the requirements of the current study in that it offered a quick and simple 10-item questionnaire, with short, easily comprehended questions. Each of the 10 items presented the same choice of responses. These were very similar to the question responses for the URICA questionnaire with which it was combined. The only difference between the two separate questionnaires, was that the URICA questionnaire offered an "undecided" response in addition to "strongly disagree", "disagree", "agree" and "strongly agree". The similarity in both format and the introductory instructions regarding how to complete the questionnaires, allowed them to be successfully combined and presented as a single questionnaire.

It is important to keep in mind that low RSE scores in the current study cannot be attributed solely to problem drinking. Confounding variables such as unemployment, breakdown of a relationship or examination/promotion failures, are just some examples of life events which can reduce one's self-esteem. If lowered self-esteem was as a result of an individual losing his or her job, there are two possibilities of how problem drinking could fit into the equation: (i) problem drinking may have contributed to the individual losing their job, or (ii) drinking may have become a problem as a result of having no job.

Therefore, while there are ways of minimising potential confounding variables, it is impossible to control for all the variables which have the potential to affect self-esteem. As Rosenberg's research demonstrates, self-esteem is a product of a great many influences and experiences during our lives.

**Table 8.1: Mean RSE scores in the current study:**

Mean RSE for all subjects:	time 1 (n=61)	2.32
	time 2 (n=55)	2.03
Mean RSE for abstinent subjects:	time 1 (n=25)	2.00
	time 2 (n=17)	2.00
Mean RSE for non-abstinent subjects:	time 1 (n=36)	2.55
	time 2 (n=38)	2.05
Mean RSE for non-agency subjects:	time 1 (n=26)	2.42
	time 2 (n=40)	2.02
Mean RSE for agency subjects:	time 1 (n=35)	2.25
	time 2 (n=15)	2.06
Mean RSE for male subjects:	time 1 (n=45)	2.08
	time 2 (n=41)	2.12
Mean RSE for female subjects:	time 1 (n=16)	3.00
	time 2 (n=14)	1.78
Mean RSE subjects aged over 35 years:	time 1 (n=41)	2.36
	time 2 (n=37)	1.83
Mean RSE subjects aged under 35 years:	time 1 (n=20)	2.25
	time 2 (n=18)	2.44

(0= high self-esteem - 6= low self-esteem)

Considering that the RSE scale ranges from a 0 score for high self-esteem and 6 for low self-esteem, the range of mean RSE scores given above (1.78 to 3.00), would suggest the majority of the subject sample did not have very low self-esteem. Chapter 14 gives a detailed account of the analysis of the self-esteem data in relation to the two models (AUDIT scores, abstinence, and type of agency contact), examined in this study.

Consistently over time 1 and time 2, the group of subjects with higher self-esteem than the mean for all subjects were those subjects found to be abstinent. For the other groupings of subjects differences in self-esteem were not consistent across time; for example, at time 1 male subjects had higher self-esteem than the female subjects but at time 2 this finding was reversed.



## **Self-esteem and addiction: research findings**

Clinical observations have frequently concluded that individuals with addictive problems demonstrate low self-esteem, although empirical research to confirm this generally held belief is somewhat sporadic.

One of the more comprehensive studies to examine self-esteem in alcoholics and nonalcoholics was carried out by Charalampous, Ford and Skinner (1976).

Charalampous *et al* proposed the idea of a feedback system between behaviour and self-concept.

“..... a person with low self-esteem can be expected to behave in ways consistent with such a self-concept and consequently exhibit ineffective behaviour. Observation of his own ineffectiveness will in turn serve to maintain a low self-esteem.” (p.990)

With the exception of one study (Berg 1971) Charalampous *et al* found the research in this field, at that time, to be somewhat inconclusive. This prompted their own study to test the hypothesis that “alcoholics do have lowered self-esteem”.

The Berg (1971) research found that when alcoholics and nonalcoholics (matched for neuroticism and extraversion) were compared using the Chicago Q Sort and the Gough Adjective Check List, both measures revealed significantly lower self-esteem in the alcoholic group.

The Charalampous study is of particular interest because it uses the Rosenberg self-esteem inventory. Unfortunately, however, the scale was scored differently from the original RSE, thus raw scores could not be compared with those of the current PhD study. Charalampous *et al* scored the answers as either agree or disagree, subjects were awarded a total score from 0 to 10.

Nevertheless, the distribution of scores indicated that significantly more alcoholics had lower self-esteem than nonalcoholics (chi square = 13.54, 4df,  $p < .01$ ). However, further examination of this data also revealed many alcoholics to have higher self-esteem than expected, Charalampous *et al* provide an explanation for this finding based on two previous studies (Allen 1969, Matefy *et al* 1971) which had shown self-esteem of alcoholics to vary according to whether or not such individuals sought treatment. By subdividing the alcoholic group into “help-seekers” and “help-rejectors”, a

significant difference was found in self-esteem between the two groups; as predicted, help-rejectors demonstrated higher self-esteem.

Another early but nevertheless relevant study compared four methods of measuring self-esteem (Kahle 1976), the subject sample was drawn from a university undergraduate population (N= 442).

Table 8.2: Pearson intercorrelations among four methods of measuring self-esteem

	1	2	3	4
1. Janis-Field Feelings of Inadequacy	.82			
2. Cutick's Self-description Inventory	.70	.72		
3. Rosenberg's Self-esteem Inventory (Likert)	.75	.64	.80	
4. Rosenberg's Self-esteem Inventory (Guttman)	.48	.44	.64	.93

(Source: Kahle 1976, p.974)

These results suggest that the first three instruments correlate well, although the RSE inventory utilising a Guttman scale correlates less well with the other measures but has the the highest coefficient for re-test reliability.

Christo and Sutton (1994) examined self-esteem and anxiety as a "function of abstinence time" with 200 recovering polydrug addicts attending Narcotics Anonymous. Using Spielberger's (1983) State-Trait Anxiety Inventory and Rosenberg's (1965) Self-Esteem Inventory (RSE scores were not reported), the study found a linear relationship between anxiety and self-esteem which was highly correlated ( $r = -.84, p < .001$ ). Christo and Sutton confirmed levels of anxiety decrease and self-esteem increases with continued abstinence. On average, a period of abstinence of up to 3 years was necessary for the "ex-addicts" to demonstrate levels of anxiety and self-esteem similar to the control group.

"It appears from our data that the recovery process is slow, perhaps taking up to three or more years for the ex-addicts to recover to 'normal' levels of psychological health." (Christo & Sutton 1994, p.199).

DeSoto, O'Donnell, Allred and Lopes (1985), in an evaluation of 312 abstinent alcoholics, found that symptomatology decreased progressively with continued abstinence. While this study did not include a measure of self-esteem, it did include anxiety and depression (Christo and Sutton have shown anxiety to mirror low self-esteem). Pachman and Foy (1978) also demonstrated in their research with in-patient alcoholic men, a significant correlation between depression and self-esteem ( $r = -.38$   $p = <0.05$ ) with low self-esteem associated with depression.

DeSoto *et al* concluded that regaining "normal" levels of psychological functioning in ex-alcoholics (if at all) can take between 2-10 years. It would seem reasonable to suggest "psychological functioning" includes self-esteem.

Brown (1980) carried out a study (N=58) to compare anxiety, depression and self-esteem in "gamma (loss-of-control) and delta (inability-to-abstain)" alcoholics with social drinkers. Instruments used included questionnaires to measure anxiety (Cattell and Stice 1957), depression (Zung 1965) and self-esteem (Janis and Field 1959). T-test analysis produced significant differences between "alcoholics" and social drinkers. Alcoholics were more anxious ( $p < .005$ ), more depressed ( $p < .001$ ) and had lower self-esteem ( $p < .05$ ) than social drinkers.

A non-experimental descriptive study exploring "Chemical Dependency and Adolescent Self-esteem" (Wasson and Anderson 1995), found differences in self-esteem scores between chemically and non-chemically dependent adolescents, as measured by Coopersmith's Self-Esteem Inventories (1987). Wasson and Anderson's findings demonstrated that chemically dependent adolescents in in-patient treatment had lower self-esteem than those adolescents receiving aftercare treatment or the general adolescent population. The findings also indicated inpatient treatment plays an important role in raising adolescent self-esteem.

Two recent studies which utilised the RSE inventory each adopted different methods of scoring the questionnaire to Rosenberg's original scoring mechanism detailed earlier. Higgins, Clough and Wallerstedt (1995) examined the self-esteem of pregnant substance abusers (N=31), and compared their data with previous research data from two other studies with



women; post hysterectomy women (Black 1993) and women 6 weeks post caesarean birth (Fawcett *et al* 1993). Using t-test analysis to compare mean self-esteem, they found the self-esteem of pregnant substance abusers to be significantly lower than the self esteem of the other groups. Although it could be argued an obvious limitation of this study lies with its lack of acknowledgement of the effects that pregnancy might have on self-esteem. Higgins *et al* scored the RSE Inventory by awarding a score of 1 for a “strongly agree” response, 2 = agree, 3 = disagree and 4 = strongly disagree. Scores for the 10 questions are totalled, with higher scores representing higher self-esteem.

The research literature would appear to indicate that while the Rosenberg Self-esteem Inventory is still considered a valid and useful instrument, although researchers who have chosen to use it have preferred to use a simpler method of scoring the questionnaire than the scoring mechanism devised by Rosenberg himself.

Walitzer and Sher (1996) used the RSE Inventory in a 4 year longitudinal study, to examine the relationship between self-esteem and “DSM-III alcohol use disorder”, according to gender differences (N= 457). They scored the RSE from 0 to 3 across the scale “strongly agree” to “strongly disagree”, with a higher total score representing higher self-esteem.

Walitzer and Sher found that individuals with a DSM-III alcohol diagnosis had lower self-esteem than those with no alcohol-use disorder diagnosis. Sex differences in self-esteem also existed for the group with alcohol problems but not the group with no alcohol-use disorder, i.e. women with problematic alcohol use had lower self-esteem than men with problematic alcohol use.

Finally, Hill and Durm (1997) found statistically significant differences in self-esteem between subjects just beginning substance abuse rehabilitation and subjects who had been in recovery for more than a year (N=25). The Tennessee Self-concept Scale (Roid and Fitts 1991) was the measure of self-esteem used, t-test analysis demonstrated a significant increase in self-esteem scores for subjects in recovery ( $t = -3.68, p < .01$ , one-tailed).

## Comparison of scoring methods used with the RSE

In view of the different RSE scoring mechanisms employed across the research studies which used the RSE inventory to measure self-esteem (Walitzer and Sher, 1996; Higgins *et al* 1995; Christo and Sutton, 1994; Charalampous, 1976), the author chose to re-score the RSE questionnaires from the current study's first round of data collection (N= 61).

The RSE was re-scored using a four-point Likert scale, each question was scored from 1 to 4 and the 10 individual scores were totalled. Thus, the total score could potentially range from 10 to 40, with higher scores representing higher self-esteem.

The purpose of this exercise was to make comparisons between the two methods of scoring the RSE inventory:

Table 8.3: Summary of self-esteem scores according to method of scoring RSE inventory.

	N	Mean score	SD	Range
Guttman scale	61	2.32	1.79	0 - 6
Likert scale	61	27.39	4.68	14 - 40

Pearson correlation co-efficient for Likert scale scores with Guttman scale scores:  $r = -.78$   $p < .0001$ . This is a higher correlation than that reported by Kahle (1976) in the correlation matrix above.

Table 8.4: Mean Likert scores calculated for subjects grouped according to original Guttman scores of 0 to 6.

	n=14	n=7	n=13	n=9	n=11	n=4	n=3
Guttman scores	0	1	2	3	4	5	6
Mean Likert scores	31.5	30	26.5	26.4	24.7	20.5	18.3

The mean scores for the RSE Inventory scored using the Likert method form a trend which corresponds to the trend in Guttman scores. This trend is better illustrated by figure 8.1.

It would appear the relationship between the two methods of scoring the RSE Inventory (with data from the current study) would suggest either scoring mechanism to be acceptable.







## **Chapter 9**

### **Different approaches to the treatment of problematic alcohol use**

Below follows a discussion of the three agencies from which subjects were recruited for the current study.

#### **Alcoholics Anonymous**

Alcoholics Anonymous developed not in response to any stated theory but as a result of an accidental meeting of two Americans in 1935. Sharing the same problem, that of controlling their alcohol use, the two men started a fellowship which came to be known as Alcoholics Anonymous.

AA has been adopted worldwide with an estimated membership of over two million. In addition it has generated other self-help groups including Alanon, Alateen and Narcotics Anonymous. A full description of the development of AA may be found in Alcoholics Anonymous 1939.

#### **The ideology of Alcoholics Anonymous**

AA literature claims "alcoholism is a fatal illness for which there is no known medical cure" ... "the action of alcohol on the alcoholic is similar to the manifestation of an allergy." ("Who Me?" 1979)

New AA members are taught that "alcoholism" is a disease, which is physical, psychological and spiritual. The disease is incurable and progressive but can be arrested by abstinence. The AA member spends his/her life "in recovery" but is never recovered.

The AA's programme of recovery centres around the 12 steps, a belief system and programme of action which involves working through 12 sequential stages. However, the fundamental goal for all members of AA is abstinence. AA literature states:

".....in our experience, alcoholism is never cured. No matter how long we have been sober, our illness is reactivated at any time by taking the first drink, and it can only get worse." ("Who Me?" 1979)

## **Benefits of the AA culture**

In contrast to most treatment agencies AA does not employ trained “professionals” but is a self-funding, self-help organisation. While the majority of the general public are aware of what Alcoholics Anonymous means, few are familiar with where and when meetings take place, as they are never publicly advertised. Such is the reverence to anonymity.

AA meetings sometimes take place during the daytime, but more often they are held in the evenings, the availability of meetings is usually determined by the spread of rural and urban populations. However, unlike the provision of other treatment services, AA is such a vast international organisation very few individuals live beyond the reach of an AA meeting. AA requires no appointments, waiting lists, or limitations on client numbers, and financial constraints are less of an issue.

Features of the AA culture which have been identified as instrumental in its success include the empathy and identification felt among the group, the availability of AA in terms of the frequent meetings (newcomers are encouraged to attend “90 meetings in 90 days”), 24-hour helplines and the appointment of established members as sponsors for new members. Attending AA meetings provides the opportunity for positive feedback and encouragement from fellow members and the likelihood of role-modelling, particularly by sponsors.

In addition Griffith (1996) points out:

“The tactics are to make goal-directed achievement seem disarmingly possible by minimalising the size of the task.” (p.232)

This statement is a reference to the doctrine of “A day at a time”, which Griffith suggests aids self-efficacy, because the task of staying sober “just for today” creates a higher expectation of short-term success. (According to Bandura 1982, self-efficacy will increase effort and persistence in relation to goal-directed behaviour, if individuals feel the goal is within their reach.)

It is not the intention of this discussion to evaluate the merits of AA membership, but to outline its goals and the techniques it employs to achieve such goals. When participants in the current study were grouped according to type of agency contact, subjects who were members of AA showed some significant differences from the other agency and non-agency



groups. These differences in data according to type of agency contact are examined in detail in the Chapter 12.

However it would that appear the critical difference between AA and other treatment agencies can be explained by the “disease concept” theory. Belief in the disease concept dictates an inflexible treatment approach which (as will be shown later) produces a different outcome in terms of the resolution of problematic alcohol use.

### **AA and the disease concept**

Alcoholics Anonymous and other Minnesota Model treatment approaches for addictive behaviours originate from the United States, where their popularity and influence has been greater than in most other countries.

The primary criticism of AA, which has affected its popularity more in this country than in the States, is its uncompromising belief in the disease concept. AA does not benefit its new recruits if they do not come to hold the view that alcoholism is an illness and total abstinence is the only answer.

AA members must redefine themselves as an “addict” and:

“admit we are powerless over alcohol” (Step One of the Twelve Steps).

While there can be no doubt that AA has benefited a great many people, and can boast an unrivalled number of members and successes, possibly more than any other treatment organisation, there are potentially serious consequences of indoctrination into a belief in the disease concept.

Cahalan (1988) points out that one reason behind the adoption of the disease concept, was to persuade society to view “alcoholics” sympathetically, and support the need for treatment and rehabilitation instead of retribution.

Another “advantage” of the disease concept (which is fiercely contested), is the positive effect it can have on an individual by relieving some of the guilt, embarrassment and disgust felt about their behaviour/emotions which users often blame for precipitating further drinking. Supporters of the disease concept claim that the realisation that they have an “illness” will prompt many individuals to seek information and treatment.

The opposing argument claims that adopting the “sick role” (Parsons 1951) is counter productive. Relinquishing personal responsibility for drinking

behaviour can result in the individual resigning themselves to being “powerless” over their situation. This can extend to making no attempt to seek help and treatment.

In addition, any failed attempts at abstinence can lead very quickly to a return to previous levels of drinking. AA rhetoric states:

“It is the first drink that destroys our power of choice. No matter how small, or how innocent or tempting the first drink seems, we stay away from it - a day at a time ..... we are only one drink away from a drunk” (“Who Me?” 1979)

In other words, because AA members believe one drink will result in an almost immediate return to uncontrollable drinking, this belief will often create a self-fulfilling prophecy.

There exists an extensive body of evidence which disputes the disease concept and the view that “alcoholism” is an irreversible condition (for example Davies 1962, Armor, Polich and Stambul 1978, Sobell and Sobell 1978, Polich, Armour and Braiker 1980, Edwards 1985, Peele 1987, Heather and Robertson 1989).

A comprehensive review of the research evidence which challenges the disease concept of alcoholism can be found in Heather and Robertson (1983) *Controlled Drinking* or Heather and Robertson (1987) *Problem Drinking*.

Edwards *et al* (1977) investigated the efficacy of “advice” versus “treatment” in a 1-year follow-up of 100 “alcoholics” who had been referred for treatment. Subjects rank ordered the most important contributory factors in their recovery;

- (1) Changes in external reality (work and housing).
- (2) Intra-psychic change (mood and self-esteem).
- (2) Changes in marital situation.

The following treatment options were of less importance:

- |                       |                           |
|-----------------------|---------------------------|
| (1) In-patient care.  | (3) Alcoholics Anonymous. |
| (2) Out-patient care. | (4) Other agency contact. |

Saunders and Kershaw (1979) conducted a community survey to examine the incidence of “Spontaneous Remission from Alcoholism”. One conclusion



of the study was that life events and environmental factors were more important in spontaneous remission than treatment interventions. Interestingly, “recovered” subjects who had received treatment became in most cases abstainers, compared with subjects who had “spontaneously remitted” and returned to (controlled) regular drinking. The authors suggest two possible explanations for this finding:

“The first is that the chronicity of the treated group meant that non-drinking was essential, or second that exposure to the treatment services meant that non-drinking was essential. The differences in these two explanations is that agencies such as Alcoholics Anonymous, Councils on Alcoholism and Alcohol Treatment Units normally work by the traditional model of alcoholism, which decrees that abstinence is essential for recovery, whereas the data obtained from the “spontaneous remitters” suggest that this may not necessarily be the case.” (Saunders and Kershaw 1979, p.264)

The National Institute on Alcohol Abuse and Alcoholism sponsored a study (Armor, Polich and Stambul 1976) involving over 2000 clients of NIAAA treatment centres, the outcome of which reported:

“Some alcoholics do return to normal drinking with no greater likelihood of relapse than alcoholics who choose permanent abstinence.” (p.86)

This study was extended with the addition of a 4-year follow-up with the same client group (Polich, Armour and Braiker 1980). The second Rand Report contained an interesting observation regarding attendance of Alcoholic Anonymous, which was the most prevalent form of treatment in the sample. The study found at 4-year follow-up, that those individuals who were former (regular) attenders of AA were more likely to be abstinent; in contrast, those subjects whose had never attended AA were more likely to be non-problem drinkers at follow-up.

This chapter has so far has outlined AA, a widely known international organisation which has been extensively researched and has yielded a comprehensive range of literature.

The second of the three agencies from which subjects were recruited for the current study was the Borders Council on Alcohol. The BCA is affiliated to the Scottish Council on Alcohol (SCA), which is a national charity in Scotland providing a network of affiliated counselling agencies across the country. The third agency, the Borders Region Drug and Alcohol Resource

Team (DART) is an independent localised drug and alcohol treatment agency.

## **The Scottish Council on Alcohol**

The Scottish Council on Alcohol was established in 1973 with the remit to develop and maintain a network of affiliated counselling agencies, offering a service for alcohol-related problems across Scotland.

The SCA claims it's "core philosophy" to be a recognition that for the vast majority of the adult population alcohol use is an accepted and normal behaviour, causing no significant harm. In addition however:

"The SCA also recognises that inappropriate or excessive drinking is likely to lead to adverse consequences for the individual, the family, the workplace and the local community. The main aim of the SCA is to prevent alcohol related harm and to bring about a reduction in individual consumption to sensible levels, which may include abstinence." ("21 Years of The SCA" 1994, p.1)

One of the first local councils to be established was the Borders Council on Alcohol in 1975. Funded by Borders Health Trust and Borders Regional Council, the BCA covers a large rural region. Its headquarters are in Galashiels and clients often live as far as 40 miles away. The BCA therefore makes arrangements for counsellors to see clients at their local health centres. Counsellors never visit clients in their own homes.

The BCA offers the following services: Counselling services, employee referral, family and partner counselling, group work, hospital referral, information advice service, offender service, school educational work, social work referral and telephone counselling.

In their modern publications the Scottish Council on Alcohol does not use the term "alcoholic", instead they define problematic alcohol use as follows: "As agencies dealing with real people with real problems we use a very simple operational definition of an alcohol problem - i.e. someone believes there is a problem. This simple definition shows our willingness to assist a wide range of people experiencing a wide range of problems" ("21 Years of The SCA" 1994, p.19).



Data from the current study will show that the BCA is usually the first agency an individual with alcohol problems is referred to, or will self refer to. While the BCA does counsel clients with chronic alcohol problems, unlike the other two agencies included in this study they also have clients whose problematic alcohol use is less well established. The prognosis for BCA clients, often as a result of early intervention, will be a return to sensible non-problematic alcohol use.

### **Drug and Alcohol Resource Team**

Funded by Borders Community Health Trust, the Drug and Alcohol Resource Team (DART) was established in 1994. DART was originally closely associated with psychiatric services as it was based at Dingleton Psychiatric Hospital.

DART has subsequently become more autonomous and community based, although it continues to employ community psychiatric nurses and receives regular input from a consultant psychiatrist.

While no longer hospital based DART, retains its connection with acute psychiatry and offers hospital admission for DART clients when a more closely supervised detoxification programme is considered necessary.

DART can also offer its clients home detoxification, which involves two home visits a day for 3 or 4 days, as well as prescription medication to relieve withdrawal symptoms. DART workers each have a their own caseload of clients who they visit in their own homes.

An information leaflet explaining the work of DART lists the provision of the following services: Advice and information, advocacy, brief interventions, consultancy, detoxification, family support, health promotion, home visits, liaison with other agencies, needle exchange, one-to-one counselling, referral to other agencies, shared care with GPs (i.e. prescribing) and training.

For many clients, initial contact with DART takes the form of crisis intervention, this will often result in hospital admission. Such individuals are generally in situations that have become totally unmanageable and immediate action is required. Less urgent referrals can take up to 6 weeks before they are seen by the team.

The philosophy of DART is one of harm reduction; DART accepts that many of their clients believe they cannot, or do not want to lead drug- and alcohol-free lives. They will therefore help clients moderate their drug and alcohol use and minimise the risks involved. For those DART clients who wish to abstain from drug and alcohol use, medical support is offered, including the use of prescribed medication and/or supervised detoxification. For the majority of DART clients who have alcohol problems, short- or long-term abstinence is the most usual goal (although this will usually follow previous attempts at controlled drinking).

However, the rationale underlying abstinence as a treatment approach for both DART and BCA clients differs considerably from the reasons stated by AA for sustained abstinence: i.e. DART and BCA do not endorse the disease concept.

DART will often refer less “serious” cases and some of their clients who have made progress, but are still in need of some support, to the BCA, because the latter has more counsellors available and can offer a longer-term commitment.

## **Summary**

It is important to be aware of the different approaches adopted by treatment agencies towards problematic alcohol use, in terms of the advice and assistance they offer to help an individual resolve their alcohol problem. This is because treatment agencies can have a profound influence on an individual's perception and understanding of their alcohol use. An individual whose life has become unmanageable and chaotic, as a result of their alcohol use, is very often in an impressionable and vulnerable state when contact is first made with a treatment agency.

There are several differences in the approach of the three agencies outlined above.

The most fundamental difference is found between AA and the other two agencies; this concerns the AA belief in the disease concept of alcoholism. This belief determines the treatment approach of AA, which is one of complete abstinence. While abstinence is frequently considered by the BCA and DART, it is usually suggested as a short-term option or as a last resort and not adopted for the same reasons as the AA.



The response an individual receives from agency personnel, for example, how they are "labelled", can have a lasting influence on how that individual perceives their alcohol problem and subsequently their treatment outcome. This will be demonstrated later when comparisons are made between the data collected from each agency group.

Treatment availability and accessibility are factors that also differ across agencies. Alcoholics Anonymous is an infinite commitment; one subject in the current study has been attending AA meetings once or twice a week for over 23 years. Again, this feature of AA membership is a result of the belief in the disease concept, believing "alcoholism" to be an incurable illness dictates that the only solution is continued abstinence, which AA members are taught is best achieved through maintaining regular involvement with the fellowship. Even in rural areas it is usually possible to attend an AA meeting most nights of the week.

In the geographical area from which subjects were recruited for the current study, different towns hold their meetings on different nights of the week, anyone who finds transport a problem is put in touch with someone who can help them get to meetings. There is certainly an element of self-motivation associated with AA membership as the responsibility to attend meetings lies solely with the individual.

Contact with the BCA and DART is much less intensive, unless an individual is hospitalised for detoxification they will see their counsellor initially once a week and then less frequently as their situation improves. While referral to the BCA will usually result in an appointment within 1 or 2 weeks, it can take as long as 6 weeks to be assessed by DART (depending on need). Clients receive written notification of their appointments.

In contrast to AA, the length of time an individual is in contact with the BCA and DART is determined by the progress they make. Some BCA clients may see their counsellor for over a year, if they wish to. Others will only require several counselling sessions. The onus usually lies with the individual to decide when they feel they no longer require help.

DART will usually make the decision to "discharge" clients from their caseload, within a shorter period of time because they normally have a waiting list of referrals.

The treatment approach of both the BCA and DART is one of harm reduction, to supply information and advice about sensible drinking and to

support individuals in their attempts to return to non-problematic levels of alcohol use. However, a larger proportion of DART clients will aim for longer periods of (or total) abstinence, presumably because this group, by virtue of DART involvement, are usually considered to be more “problematic” alcohol users than the BCA group.



## **Summary and Hypotheses**

### **Summary**

The proceeding chapters have discussed the nature and the measurement of alcohol problems from contrasting perspectives. In general terms the notion of addiction as a specific syndrome or entity has been contrasted with the notion of addiction as a functional construct.

Specific reference was made to the model of the addiction process developed by Prochaska and DiClemente, which sees addiction as a progression through a series of stages. A model developed at the University of Strathclyde resembles the Prochaska and DiClemente model in also being a process or stage model. However, this Functional Discursive model is based on different theoretical foundations; having their basis in a performative rather than informative view of language, and a specific grounding in attribution theory.

In the remainder of this thesis, these two approaches to a common problem are compared and contrasted in order to explore possible differences between the models. Subjects were recruited from three types of agencies with differing philosophical underpinnings (particularly when comparing the AA approach with other approaches). In addition, subjects with no agency contact were also recruited. The intention is to explore a number of hypotheses concerning the two models with this group of subjects.

### **Hypotheses**

#### **General hypothesis:**

The general hypothesis states that the Functional Discursive Model which posulates that language is performative and context dependent, will perform better across a range of contexts than the Transtheoretical Model.

In order to test the general hypothesis several specific hypotheses were necessary.

#### **Specific hypotheses:**

The specific hypotheses are devised from an understanding of the fundamental principles underpinning each of the two models. This information allows predictions to be made about how each model will perform across the different contexts, to which each is applied. In addition

predictions can be made of the independent measures (self-esteem and AUDIT) according to stage position in each model.

The first of the three different contexts is agency contact. Agency contact divides primarily into 2 groups; alcohol users in contact with a treatment agency and alcohol users with no agency contact. However, those subjects in contact with a treatment agency can be further divided into 3 sub-groupings according to the type of treatment intervention. (Differences in type of treatment approach are discussed in detail in chapter 9.)

Secondly, 'time' can be viewed as adding another variation in context because the subjects in the following study were re-interviewed after six months. Changes in personal circumstances, environment, or simply life experience during the intervening six months, means the context can not be viewed as the same on each occasion.

The third contextual variation is found according to stage position within either of the models. Each stage of a 'process' model - such as the two employed in this study - exemplifies a point in the alcohol users 'career'; this career evolves across, and encompasses a range of contexts (i.e. stages).

Therefore, the different contexts examined in the current study include agency contact, time and stage position.

#### Specific Hypothesis 1 -

States that:

(a) The *majority* of alcohol users **not in contact** with a treatment agency will be found in Stages of Change; precontemplation and contemplation. In addition this group of subjects will also be found at stages one, two and five of the Functional Discursive Model.

(b) Alcohol users **in contact** with each of the different treatment agencies will be found at the following stages of each model; subjects in contact with the Borders Council for Alcohol will be found at contemplation, action and maintenance, and at discursive stages two, three and four; subjects in contact with DART will be found at action and maintenance and discursive stages three and four; subjects in contact with AA will be found at action and maintenance, and discursive stage three.



### Specific Hypothesis 2 -

States that a measure of problematic alcohol use (AUDIT) will reveal:

(a) A relatively high level of problematic alcohol use at Stages of Change; precontemplation increasing further at contemplation. This will be followed by a reduction in the level of problematic use at stages action and maintenance.

(b) Levels of problematic alcohol use will successively rise through the Functional Discursive Model at stages one, two and three. This will be followed by descending levels of problematic use through discursive stages four and five.

### Specific Hypothesis 3 -

States that a measure of self-esteem (RSE) will reveal:

(a) Level of self-esteem to fall between Stages of Change; precontemplation to contemplation, and then to rise again at stages action and maintenance.

(b) Level of self-esteem will successively reduce through Functional Discursive stages one, two and three and then rise again between discursive stage three and four, rising further at discursive stage five, at which stage self-esteem will be found to be at a similiar level as at discursive stage one.

## Chapter 10

### **Modifying the Prochaska and DiClemente Change Assessment Questionnaire (URICA)**

#### INTRODUCTION

##### Summary

The development of the Transtheoretical Model by Prochaska and DiClemente (1979) yielded an assessment instrument known as the University of Rhode Island Change Assessment Scale (URICA). This instrument is used to measure an individual's "stage of change" for a variety of behavioural and addictive problems.

However the URICA's suitability for use with individuals outside agency contact is questionable. For this reason the study reported in this chapter aimed to show that with minimal changes to the wording of the URICA, it could be made more appropriate for a broader range of alcohol users.

A modified URICA was devised and then tested against the original using correlational analyses. Coefficients for correlations between individual questions and stage scores were all statistically significant (with only one out of 42 below  $p = .0001$ ) 80% of coefficients were above 0.7. Therefore these results validate further use of the modified version of the URICA, as an instrument capable of matching the original URICA's measurement capability.

##### **Modifying the original Prochaska and DiClemente URICA**

The original version of Prochaska and DiClemente's URICA (University of Rhode Island Change Assessment Scale) questionnaire used to measure an individual's stage of change, was designed to address a variety of behavioural and addictive problems. For example the Stage of Change Model has been applied to smoking (Prochaska and DiClemente 1983; Prochaska and DiClemente 1984), weight control (O'Connell and Velicer 1988; Prochaska and DiClemente 1985), cocaine use (Harlow and Minugh 1989), psychological distress (Prochaska and DiClemente 1985),



psychotherapy (McConaughy, Prochaska and Velicer 1983), condom using behaviour (Redding, Rossi, Velicer and Prochaska 1989) and alcoholism (DiClemente, Gordon and Gibertini 1985).

In its original form, the URICA questionnaire contains 32 statements. An individual responds by selecting one of five alternative answers to express the strength of their agreement or disagreement. The choice of response remains the same for each item; strongly disagree; disagree; undecided; agree; strongly agree.

The statements do not name the behaviour or addictive problem being addressed. Instead, each question refers to a person's "problem" and the individual is instructed at the beginning of the questionnaire to regard each reference to their "problem" in terms of their alcohol use (or drug use, smoking, eating habits, etc.) and to answer accordingly.

Below are the precise instructions printed at the beginning of the original "Change Assessment Questionnaire" (URICA)

"Please indicate the extent to which you agree or disagree with each statement below. In each case, make your choice in terms of HOW YOU FEEL RIGHT NOW. For all the statements that refer to your 'PROBLEM', answer in terms of your ALCOHOL USE. And 'HERE' refers to the place of TREATMENT or program." (Cancer Prevention Research Center 1992)

Occasionally the written instructions for the URICA have also requested an individual completes the statement: "My problem is ....."

The questionnaire is thus intended to be readily applicable to different client groups as the only alteration necessary lies in the instructions given at the beginning.

However, despite the authors claims that the Stage of Change model is applicable across a wide range of treatment interventions, as well as self-changers (Prochaska and DiClemente 1986), it would appear from the research to date that smoking cessation is the only group of selfchangers to whom the URICA has been successfully applied (DiClemente and Prochaska 1982). This means that the majority of research using the URICA and the incidence of its application in clinical practice has, for the most part, involved

individuals who concede (although not always willingly) that a problem exist with their behaviour and, as a result, have entered into agency contact.

So what of those individuals with addictive problems who successfully change their behaviour without entering agency contact? Little research data for this group exists. One of the aims of the following PhD research was to investigate the applicability of the URICA as an assessment instrument, with different groups of individuals. This was to include excessive alcohol drinkers both in and without agency contact, some of whom would not perceive their drinking as problematic.

However, in its original form, the wording of the URICA has proved to be unsatisfactory (as the following study will address) when used with individuals who do not perceive their behaviour or substance use to be a problem. This is because the repeated reference to their “problem” is confusing and sometimes even insulting to such individuals, who will consequently resist completing the URICA.

For individuals who are already in treatment (or considering treatment) this is not the case, as by virtue of being in agency contact, they have (usually) acknowledged that a problem exists.

The above observation prompts the question of whether the URICA is intended for individuals who are not yet ready to consider changing addictive behaviours. However, as the URICA contains a precontemplation stage “ in which people are unaware of having problems or for other reasons are not thinking seriously about changing” (Prochaska and DiClemente 1994, p.24), then it must have been the authors intention that the URICA’s assessment capability would extend to all groups of individuals.

Rollnick and Heather (1992) also observed this feature of the URICA as a difficulty during their development of the “Readiness to Change” questionnaire. The Readiness to Change questionnaire was designed for use with excessive drinkers *not* seeking help for their alcohol use. It is based on Prochaska and DiClemente’s Stages of Change. Rollnick and Heather also found the “problem” orientated terminology of the URICA unsuitable for individuals outside treatment, and state:

“The URICA was not suited to the aims of the above project for a number of reasons. First, many of the items in the URICA refer to the persons views about ‘my problem’ and the first item on the scale asks the respondent to



complete the statement 'My problem is .....' This was likely to confuse many of our subjects who would not describe their drinking behaviour as a problem and who had not requested help for a drinking problem." (Rollnick and Heather 1992, p.745).

The solution devised by the authors of the Readiness to Change questionnaire was to construct their own statements which would make sense to their particular subject group. These statements were then given to eight clinical psychologists along with definitions of each stage of change, who were asked to assign each statement to a stage of change. Only statements unanimously allocated to the same stage were used. Further refinement of the Readiness to Change questionnaire included removal of the maintenance stage as the authors felt a measurement of the maintenance stage irrelevant to the client group they were targeting (i.e. excessive drinkers not seeking treatment). The Readiness to Change questionnaire is also considerably shorter than the original URICA containing 12 statements: four precontemplation, four contemplation and four action.

Other researchers who have questioned the original format of the URICA for different reasons include Abellanas and McLellan (1993). They discuss in their paper "Stage of Change by Drug Problem in Concurrent Opioid, Cocaine, and Cigarette Users" the possibility that the URICA contributed to the surprising finding of a uniform pattern of responses across the three drugs concurrently used, despite considerable variation in recency, duration, amount and frequency of each drug.

Abellanas and McLellan speculate that the wording of the items in the URICA "...which do not address the particular problem specified but merely refer to 'problem' in the generic sense". (Abellanas and McLellan 1993, p.312) gave rise to "generic" answers, which in turn produced almost identical profile scores for each drug where they had expected to find differences in stage of change according to type of drug used.

Suggestions made by Abellanas and McClellan to address the anomalies encountered in this particular study included:

"In future studies with this instrument, individual questions will be reformatted to contain the specific problem under consideration." (Abellanas and McLellan 1993, p.312)

Using the URICA with a non-clinical sample:

For a proposed subject sample combining individuals currently in treatment *and* individuals who do not perceive their alcohol use as a problem (and would not be seeking treatment in the near future), the original URICA is unlikely to be suitable. What was required was a questionnaire which could lend itself to alcohol users both in and out of agency contact.

To achieve this, while maintaining the structure of the Prochaska and DiClemente questionnaire, the focus on an individual's drinking as a "problem" had to be removed. It was anticipated this would result in a questionnaire which would prove to be more appropriate and acceptable to both groups. Therefore the objective of the following study was to construct a modified version of the original URICA which would be tested against the original to ensure the features of the original were retained. A correlational design was chosen to look at the association between the two variables (i.e. the original URICA and a modified version). High correlation coefficients would indicate that altering the wording of the statements does not invalidate the modified URICA as an assessment tool, for measuring an individual's stage of change. Low correlation coefficients will result if subjects choose different responses to each version of the same statement.

Test-retest reliability for both the original and modified URICA is also examined.

## **METHOD**

### **Design**

The study was a within subject's design, with all subjects completing the same questionnaires, i.e. the original and modified URICA.

Questionnaire statements were counterbalanced to control for order effects.

A proportion of subjects were recontacted 1 week later to complete the same questionnaires (i.e. the original and modified URICA) for a second time, in order to examine test re-test reliability.

### **Subjects**

In total, 92 subjects were recruited, 38 subjects were in agency contact and the remaining 54 were not in agency contact but of these subjects six did not



complete the whole questionnaire and therefore had to be omitted, leaving 48 non-agency subjects.

Table 10.1: Details of the subject sample divided by agency contact.

Information on subject sample	Non-Agency Subjects	Agency Subjects
<b>Sex</b>	25 male 23 female	27 male 11 female
<b>Age:</b>		
Range	17-68	21-59
Mean	25.5	40.9
<b>Employment status:</b>		
Unemployed	31.2%	68.4%
Part-time	22.9%	2.6%
Full-time	27%	21%
Education	18.7%	7.9%
<b>Frequency of alcohol use:</b>		
Less than once a week	8.3%	7.8%
Once a week	6.2%	2.6%
Twice a week	16.6%	7.8%
3 to 5 times a week	33.3%	23.6%
More than 5 times a week	8.3%	13.1%
Everyday	27%	34.2%
Abstinent	0	10.5%
<b>No of drinks on an average occasion:</b>		
10 or more	14.8%	41.1%
5 to 10	44.6%	41.1%
2 to 5	27.6%	17.6%
1 or 2	12.7%	0

## Materials

A questionnaire was constructed comprising 24 original URICA statements and 24 modified versions of the same statements. Also included in the questionnaire were 15 general questions, mostly about drinking habits. A score sheets for the questionnaire was also produced.

### Constructing the questionnaire

The 32 original URICA statements were carefully examined and eight were discarded. There were two reasons for reducing the number of statements. First because the original URICA items were to be matched with modified versions of the same statements, and the questionnaire was also to contain some general questions about drinking habits, retaining all 32 items would have resulted in a questionnaire containing 79 questions; this was felt to be too long. Second some of the statements were more ambiguous and confusing than others. For example:

Number 11: "Being here is pretty much a waste of time for me because the problem doesn't have to do with me."

Number 16: "I'm not following through with what I had already changed as well as I had hoped and I'm here to prevent a relapse of the problem."

Bearing in mind that the questionnaire was going to be used not only with agency subjects, but also with non-agency subjects for whom the examples given above would appear less intelligible, the objective was to produce a form of the URICA which was more acceptable to drinkers regardless of agency contact. Removal of the more "agency orientated" statements thus seemed justifiable. (See Appendix for 24 selected and eight discarded statements.)

The URICA questionnaire now contained six statements as a measure of each stage of change, i.e. six precontemplation statements, six contemplation, six action and six maintenance. In the original URICA, there are eight per stage. This reduction, however, should not affect stage allocation as shown by the work of Rollnick *et al* (1992) who produced the Readiness to Change questionnaire which contained only four statements for each stage.

Having reduced the length of the URICA the next step was to produce an alternative version of each of the 24 remaining statements, by removing the offending word "problem". The use of the word "problem" forces individuals outside agency contact to regard their alcohol use as a problem when they would not otherwise do so. This can lead to irritation with the questionnaire and sometimes an individual will resist completing it.



As cited earlier, the following instructions are given with the original URICA: "For all the statements that refer to your 'PROBLEM', answer in terms of your ALCOHOL USE. And 'HERE' refers to the place of TREATMENT or programme."

This instruction would therefore need to be included with the 24 original URICA statements selected for the questionnaire. However, since the intention for the modified version was to remove the word "problem" from the URICA, it would appear feasible that "problem" could be replaced by "alcohol use". Also, although some of the more "agency orientated" statements had been discarded, there were still references to a place of treatment in some statements. Therefore, the word "here" was changed to a more general reference to treatment because individuals outside agency contact would not be attending a place of treatment and statements containing the word "here" would again appear irrelevant.

Examples of modified statements include:

(1) "At times my *problem* is difficult, but I'm working on it" became "At times my *alcohol use* is difficult, but I'm working on it"

(2) "It worries me that I might slip *back on a problem I have already changed, so I am here* to seek help" became "It worries me that I might slip *back to my previous alcohol use, so I intend* to seek help"

(3) "Maybe *this place* will be able to help me" became "Maybe *treatment* will be able to help me"

(4) "Even though I'm not always successful in changing, I am at least working on *my problem*" became "Even though I'm not always successful in changing, I am at least working on *changing my alcohol use*"

(5) "I am actively working on my *problem*" became "I am actively working on my *alcohol use*"

(See Appendix for full list of 24 modified statements)

This process resulted in two sets of matched URICA statements which were divided in the questionnaire layout by a page of 15 questions on demographic details and drinking habits. In addition to eliciting information about an individual's alcohol consumption these general questions also served to briefly distract the subject before they answered the second set of similar questions.

The order in which the questions were presented in the questionnaires was counterbalanced so half the subjects answered the original URICA statements first and the other half answered the modified statements first.

Each questionnaire included a front page titled "Study on drinking behaviour" beneath which a brief explanation was given about who was conducting the study and why. It also contained an assurance that participation would be totally confidential and anonymous.

(See Appendix for complete questionnaire)

## **Procedure**

### Subject recruitment

The first 10 non-agency subjects recruited were known to the experimenter, and were visited in their own homes. These subjects were contacted again 1 week later and asked to complete the questionnaire again.

Recruiting the remaining 38 non-agency subjects involved approaching individuals in public drinking places such as public houses/bars, between the times of 11 a.m. and 12.30 p.m. Most individuals were approached just after entering the premises as they bought their first drink.

This time of day was chosen for two reasons: first to minimise the possibility of an individual being under the influence of alcohol when filling in the questionnaire, and second most public houses are quiet on weekdays between 11a.m. and 12.30 p.m., so there was less noise and distraction.

Those individuals who agreed to complete a questionnaire did so seated at the tables in the pub/bar and then handed it back to the experimenter.

Recruitment of subjects in agency contact took longer than the non-agency subjects as agency cooperation had to be solicited first.

Two providers of services for people with alcohol problems in the Strathclyde region, Glasgow Council on Alcohol (GCA) and Renfrew Council on Alcohol (RCA), were approached and agreement obtained from each director for suitable clients to be invited to participate.

21 subjects recruited from the GCA were currently receiving counselling for alcohol and alcohol-related problems. Clients attend weekly appointments at the GCA's premises, and will usually have been referred by Social Services



and GPs, although some are self referrals. The group was a mixed sample of individuals some of whom were currently drinking heavily and some of whom had cut down on their alcohol consumption, approximately 10% of the sample were abstinent. For this group of subjects the questionnaires were left with the alcohol counsellors, who were given instructions to select clients who had been seeking help with their alcohol problems for several months. This was to ensure this group of subjects perceived their alcohol use as a problem. Individuals just entering treatment are often ambivalent as to whether their drinking is problematic.

A total of 17 subjects from the RCA were recruited from two different services:

(1) Supported Accommodation: clients with a long history of problem drinking and homelessness. All are referred from hostels and should have been abstinent for at least 1 month.

(2) Offender Referral Scheme: clients referred by the Sheriff Court on a probationary basis - most will be current drinkers, (some may be equivocal about their drinking).

As with the GCA clients, questionnaires were left with counsellors to select the most appropriate subjects. This would include a judgment by the counsellors as to whether an individual had the necessary literary ability to complete the questionnaire.

Because the questionnaire included an introduction explaining the purpose of the study and written instructions on how to answer the questions, no verbal instructions were required. Once a counsellor had elicited agreement from a client to participate they gave out the questionnaire to be completed with no further guidance necessary.

In total 96 questionnaires were satisfactorily completed. 38 subjects were currently receiving counselling and/or other forms of support for their alcohol problems. The remaining 48 subjects provided a cross section of alcohol drinkers not in agency contact. Of this group 10 subjects completed the questionnaires twice.

### Scoring the questionnaires

The questionnaire is scored by awarding a mark from 1 to 5 for each response.

For example strongly disagree = 1, disagree = 2, undecided = 3, agree = 4, strongly agree = 5.

On a separate questionnaire score sheet, question numbers 1 to 24 are listed according to the stage they correspond to:

Table 10.2: Example from score sheet.

Subject No.	(pre)	(con)	(act)	(main)
	01..... ..	02..... ..	03..... ..	05..... ..
	04..... ..	07..... ..	06..... ..	12..... ..
	09..... ..	10..... ..	08..... ..	15..... ..
	16..... ..	13..... ..	11..... ..	20..... ..
	19..... ..	14..... ..	18..... ..	21..... ..
	22..... ..	17..... ..	23..... ..	24..... ..
Total	..... ..	..... ..	..... ..	..... ..

Each question is scored and entered against the appropriate question number. The scoring yields two columns of scores, as there are two sets of 24 statements (i.e. 24 from the original URICA and 24 modified alternatives). Each column can then be totalled and the highest totals indicate which stage of change a subject endorses.

This completes the scoring mechanism for the Change Assessment Questionnaire, however, to add a further correlation to the analysis the four stage scores were combined to produce a total score for each set of statements.

As the two sets of statements were counterbalanced in the questionnaire, this had to be accounted for when filling in the score sheet. The scores for original URICA statements were always marked in the first column, this made entering the totals in to an SPSS database easier.

## **RESULTS**

Pearson correlation coefficients were calculated for the following:



- (1) Precontemplation scores for the original URICA with precontemplation scores for the modified URICA.
- (2) Contemplation scores for the original URICA with contemplation scores for the modified URICA.
- (3) Action scores for the original URICA with action scores for the modified URICA.
- (4) Maintenance scores for the original URICA with maintenance scores for the modified URICA.
- (5) Total scores (i.e. four stage scores totalled) for the original URICA with total scores for the modified URICA.
- (6) Stage allocation for the original URICA with stage allocation for the modified URICA.

Each of the above were computed for the non-agency subjects (n=48), the agency subjects (n=38) and the two groups combined (n=86), resulting in 18 correlation coefficients.

- (7) All subjects scores (n=86) for question 1 on the original URICA were correlated with scores for question 1 on the modified URICA, and repeated for each of the 24 questions, resulting in 24 correlation coefficients.

For test-retest reliability 10 subjects completed the questionnaires again 1 week later. Pearson's correlation coefficients could not be computed as the data set was too small to meet the criteria for parametric tests. Therefore, Spearman rank correlations were calculated for the following:

- 8) Six original URICA scores (i.e. pre; con; action; main; totals; stage allocation) with original URICA scores on retest (six correlations).
- 9) Six modified URICA scores with modified URICA scores on retest, (six correlations).

In addition to the correlational analyses, mean scores for each URICA stage were compared. A two factor analysis of variance was also computed to test for differences between scores on the original and modified URICA. Finally, a separate factor analysis was carried out for each questionnaire in order, to make further comparisons between the original and modified questionnaires.

Table 10.3: Pearson's correlation coefficients for 24 original URICA statements with 24 modified URICA statements (n=86).

No.1	.556	No.7	.73	No.13	.771	No.19	.709
No.2	.728	No.8	.76	No.14	.77	No.20	.763
No.3	.748	No.9	.671	No.15	.743	No.21	.819
No.4	.552	No.10	.847	No.16	.408	No.22	.69
No.5	.787	No.11	.796	No.17	.766	No.23	.821
No.6	.884	No.12	.791	No.18	.717	No.24	.833

A total of 19 of the 24 coefficients in Table 1 are above 0.7. All are statistically significant  $p < .0001$ , except No. 16 ( $p < .001$ ).

Table 10.4: Pearson's correlation coefficients for original URICA scores with modified URICA scores.

Original URICA scores correlated with modified URICA scores	Subjects not in agency contact (n=48)	Subjects in agency contact (n=38)	All subjects (n=86)
Precontemplation	.612	.736	.774
Contemplation	.803	.609	.894
Action	.622	.804	.885
Maintenance	.82	.727	.907
Total score*	.758	.644	.883
Stage allocation	.755	.346	.763

(\*four stage scores totalled)

Table 10.4 clearly shows that scores for the original URICA correlate well with scores on the modified URICA. All the correlation coefficients are statistically significant, with only one falling below significance level  $p < .0001$ , this being the coefficient for stage allocation with subjects in agency contact which was considerably lower than the rest at .346 ( $p < .05$ ).



This apparent anomaly is explored further in a later section which examines stage allocation.

**Table 10.5: Mean scores for URICA stages and totals**

	Mean:		S.D:	
	Non agency	Agency	Non agency	Agency
Original Pre. score	17.64	11.97	4.35	3.88
Modified Pre. score	18.66	12.13	4.28	4.23
Original Con. score	15.79	25.13	5.66	2.87
Modified Con. score	15.27	25.26	5.22	2.7
Original Act score	14.29	25.07	4.97	2.58
Modified Act. score	13.29	25.02	4.43	2.78
Original Main. score	14.18	23.47	5.54	2.92
Modified Main. score	12.93	23.44	4.66	2.86
Original total score	61.97	85.68	14.78	5.53
Modified total score	59.75	85.52	12.05	5.75
Original stage*	1.6	2.97	0.84	0.78
Modified stage*	1.43	2.92	0.71	0.78

\* The four stages were coded for this analysis as follows: Precontemplation = 1; Contemplation = 2; Action = 3; Maintenance = 4.

The means in Table 10.5 show, as one would expect, much higher scores for Contemplation, Action and Maintenance compared with Precontemplation scores for agency subjects.

Agency subjects would not be expected to score highly on Precontemplation as this stage is characterised by a denial that any problems exist. By being in agency contact these subjects have given some acknowledgment to the contrary.

Mean scores for each stage across each version of the URICA show greater similarity for the agency subjects. A possible explanation for this is given in the discussion.

To test for differences between the original URICA stage scores and the modified URICA stage scores, a two factor analysis of variance was computed for each subject group (a) agency (n=38) and (b) non-agency (n=48).

First, the analyses produce an assessment of each variable separately i.e. the “main effect” of each variable. In each of the two ANOVA’s reported below (table 10.8) the two variables are: “scale” (scores across four stages) and, more importantly, “URICA scores” (modified or original).

Secondly, in addition to the separate assessment of the two variables, each analyses also reveals whether there is an “interaction” between the two variables: scale and URICA version.

Table 10.6: Analyses of variance results for variables: URICA version and scale, for (a) agency subjects (b) non-agency subjects.

(a)

<b>Two-way ANOVA for agency subjects</b>	df	Sum of Sq	Mean Sq	F	Sig of F
URICA scores (= modified & original)	1	0.21	0.21	0.06	.802
Scale (= four URICA stages)	3	9072.43	3024.14	164.24	.000
URICA by scale	3	0.66	0.22	0.08	.969

(b)

<b>Two-way ANOVA for non-agency subjects</b>	df	Sum of Sq	Mean Sq	F	Sig of F
URICA scores (= modified & original)	1	18.38	18.38	1.50	.227
Scale (= four URICA stages)	3	1295.94	431.98	14.16	.000
URICA by scale	3	74.65	24.88	5.22	.002

The most relevant results in table 10.6 are the F ratios for the analyses of variance on the URICA version. The insignificant F ratios indicate that the two versions of the URICA (modified and original) each produce responses, i.e. scores, which are not significantly different from each other. The lower F ratio for the agency group compared with the non-agency group reveals that the agency group had fewer differences in scores (across each URICA) than the non-agency group.



The scale results indicate, as would be expected, that significant differences exist between scores at different stages. These differences are greater for the agency group. (Figures 10.1 and 10.2 illustrate the distribution of mean scores for both agency and non-agency groups, and clearly demonstrate where the main differences in scores between stages occur.)

Finally, table 10.6 also displays the statistical significance of the interaction between the two variables. No interaction exists between URICA and scale for the agency group. However, the analysis for the non-agency group reveals an interaction between URICA and scale which means differences between the two variables are not constant, i.e. the effect of one variable (modified or original URICA) depends on the level of the second variable (URICA stage scores).

The mean scores from table 10.5 are displayed graphically for both groups of subjects (figures 10.1 and 10.2). In addition to illustrating the mean profile of URICA stage scores for both versions of the URICA questionnaire, the graph for non-agency subjects displays the interaction between the two variables.



Figure 10.1: Graph representing URICA stage scores for modified version and original version of URICA questionnaire, agency subject group (n= 38)

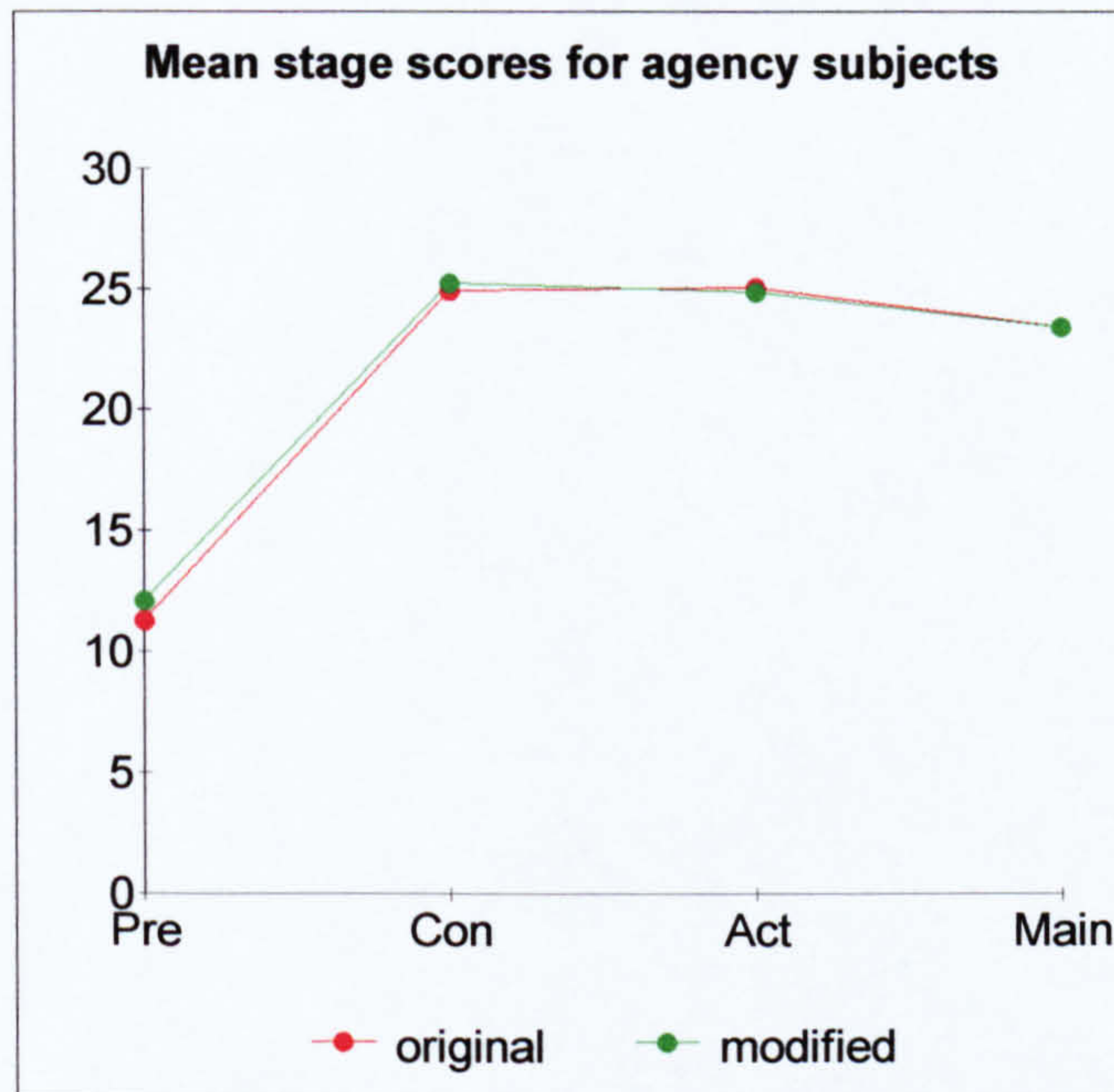
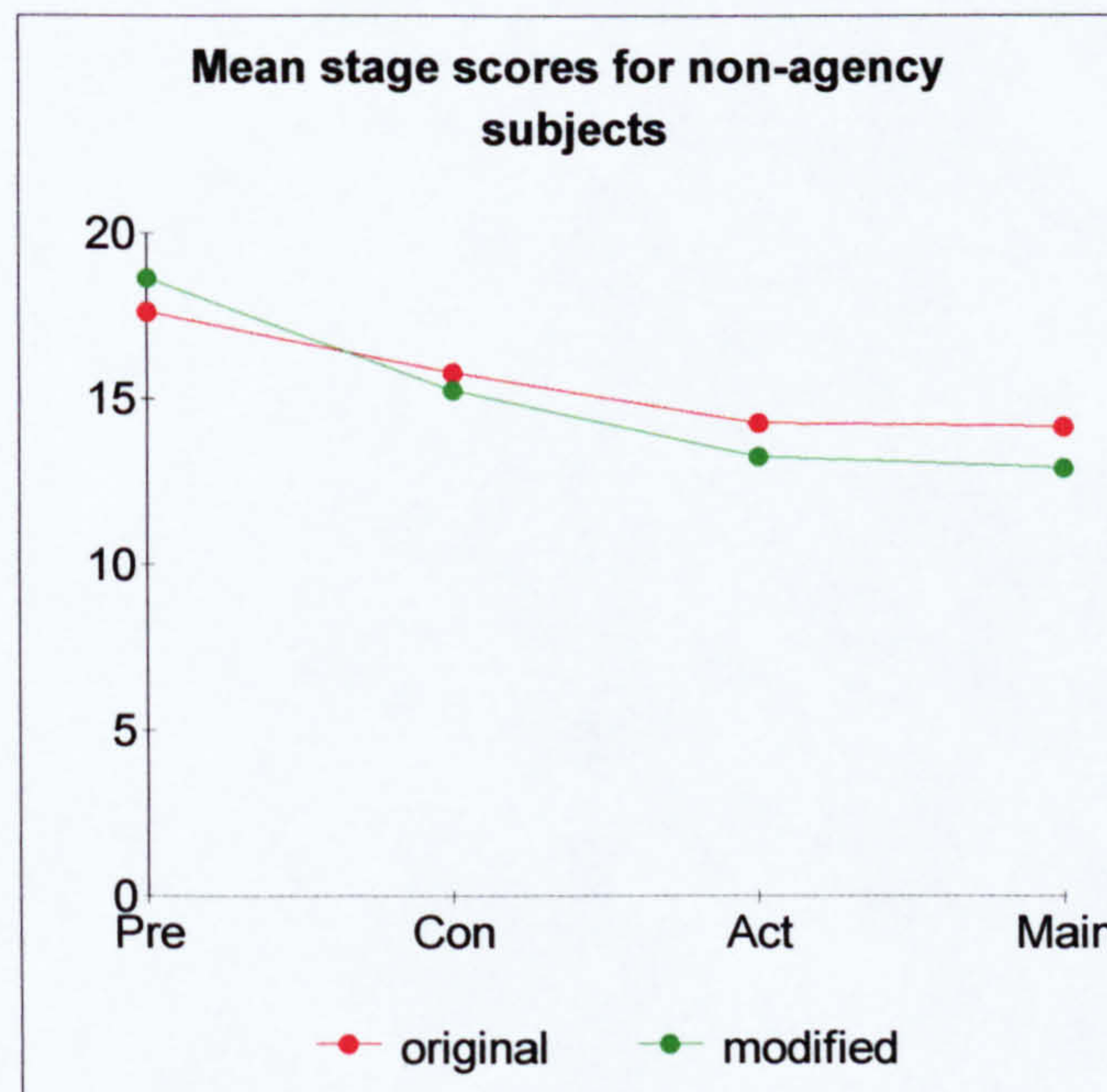


Figure 10.2: Graph representing URICA stage scores for modified version and original version of URICA questionnaire, non-agency subject group (n=48)





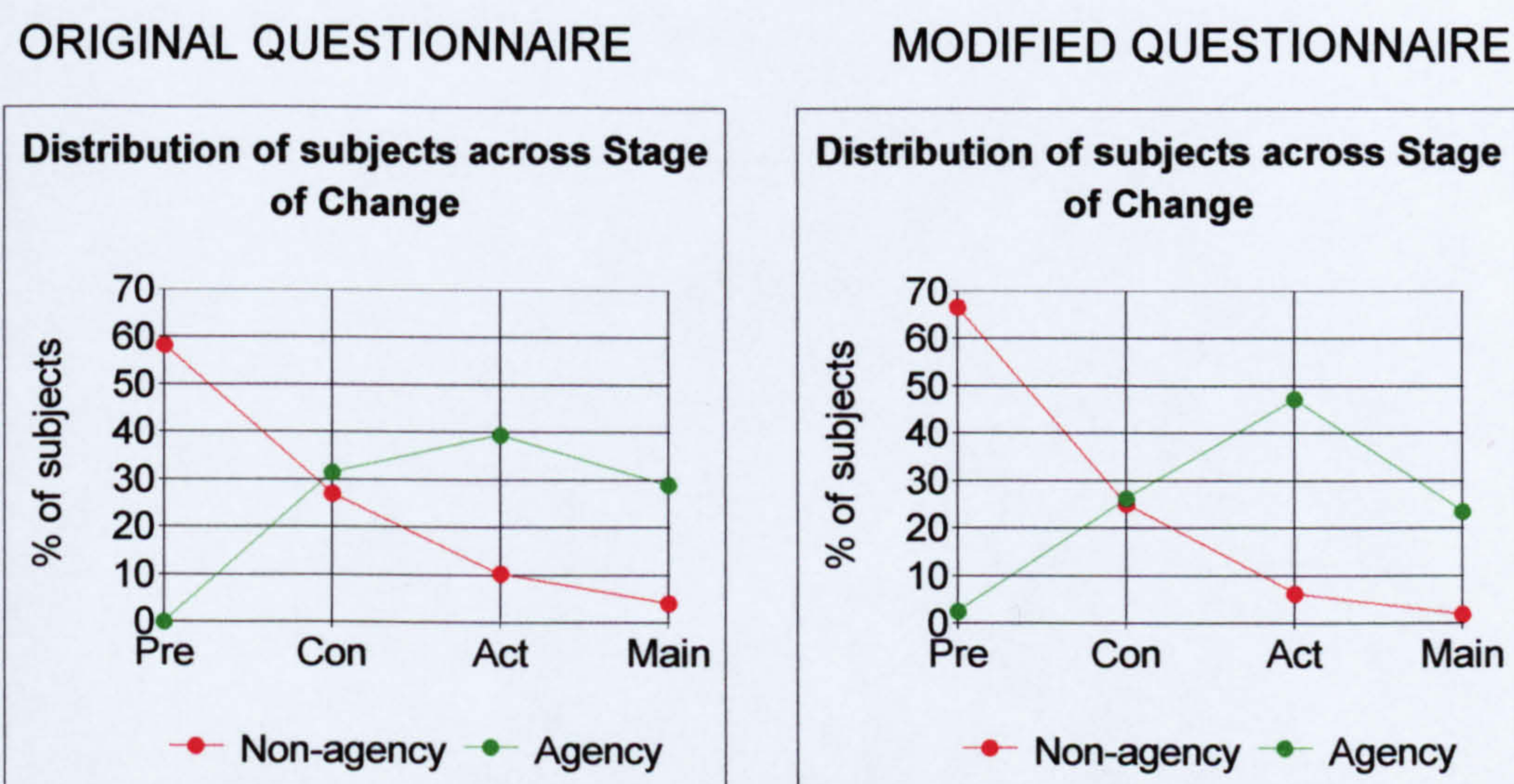
## Stage allocation

**Table 10.7: Subject distribution across stages of change**

	Non-Agency (N=48)		Agency (N=38)	
	Original URICA	Modified URICA	Original URICA	Modified URICA
Precontemplation	28 (58.3%)	32 (66.6%)	0	1 (2.6%)
Contemplation	13 (27%)	12 (25%)	12 (31.5%)	10 (26.3%)
Action	5 (10.4%)	3 (6.2%)	15 (39.4%)	18 (47.3%)
Maintenance	2 (4.1%)	1 (2%)	11 (28.9%)	9 (23.6%)

Table 10.7 shows very clearly, as one would expect, the decreasing (non agency) and increasing (agency) incidence of subjects accompanying progression through the stages of the model. Displayed graphically in Figure 10.3.

**Figure 10.3: Distribution of subjects across stage of change**



The distribution of subjects across stage of change illustrates the value of testing the questionnaire with different subject samples (i.e. individuals in and out of agency contact) in order that each of the four stages the URICA claims to measure are represented in this test of the modified questionnaire. For example, without a non agency sample the study would not have included "precontemplators" and without the agency sample there would have been few individuals in the maintenance stage. This is of importance because the main PhD study that follows (for which the modified URICA has



been constructed), comprises a mixed subject sample in order that the suitability of the URICA as an assessment tool can be evaluated with a broader range of individuals than has been the case to date.

In order to examine further the low correlation in Table 10.4 (stage allocation for agency subjects), the contingency tables below give stage allocation for the original URICA (along the top of the table) with stage allocation for the modified URICA, agency (n=38) and non agency (n=48).

The contingency tables display which stage a subject is allocated to for each version of the questionnaire and the majority clearly fall into the same stage, regardless of the measure (original or modified URICA). However, there is a difference according to agency contact, with 34.2% of agency subjects not in the same stage compared with 20.8% of non agency subjects not in the same stage.

Contingency tables for stage allocation:

Table 10.8: Observed Frequency Table for Non-agency subjects

		Original URICA				Totals:
		Pre	Con	Act	Main	
Modified URICA	Pre	26	4	2	0	32
	Con	2	9	1	0	12
	Act	0	0	2	1	3
	Main	0	0	0	1	1
Totals:		28	13	5	2	48

Table 10.9: Observed Frequency Table for Agency subjects

		Original URICA				Totals:
		Pre	Con	Act	Main	
Modified URICA	Pre	0	0	0	1	1
	Con	0	7	1	2	10
	Act	0	4	12	2	18
	Main	0	1	2	6	9
Totals:		0	12	15	11	38



**Table 10.10: Percentage of subjects in same or different stages across each version of the URICA questionnaire**

	<b>Non-agency</b>	<b>Agency</b>	<b>All subjects</b>
% of subjects in same stage	79.1	65.7	73.2
% of subjects in adjacent stage	16.6	23.6	19.7
% of subjects not in same or adjacent stage	4.1	10.5	6.9

Data from the contingency tables gave rise to Table 10.10 which gives a clearer picture of where the low “stage” correlation in Table 10.4 originates. The one-third of (agency) subjects not in the same stage - of each version of the questionnaire - breaks down into 23.6% in an adjacent stage (either a stage back or forward), and 10.5% who had moved two or three stages. Considering the smaller subject numbers (n=38) the correlation coefficient for stage allocation is therefore markedly reduced for the agency subjects. A possible explanation as to why agency subjects were less frequently in the same stage for the original and modified URICAs is considered in the Discussion.

**Test-retest reliability**

Data from the subjects who were retested 1 week later were correlated using the Spearman Rank Correlation, because numbers were too low (n=10) for parametric statistical analysis.

Two correlation coefficients (precontemplation scores for the original URICA and action scores for the modified URICA) only approach statistical significance. However all of the remaining ten correlations were significant at levels ranging from  $p = .01$  to  $p = .004$ .

**Table 10.11: Test-retest Spearman’s correlation coefficients (n=10)**

	<b>Test-retest correlation for original URICA</b>	<b>Test-retest correlation for modified URICA</b>
Precontemplation scores	.556	.745
Contemplation scores	.920	.960
Action scores	.901	.447
Maintenance scores	.840	.876
Total scores	.880	.960
Stage allocation	.852	.753

### Counterbalancing question order

The final correlations examined whether counterbalancing question order had any influence on the correlations between the original and modified URICA.

If counterbalancing had no significant effect then one would expect correlation coefficients for each of the two question orders, i.e. (i) original URICA items followed by modified URICA items (n=44), and (ii) modified URICA items followed by original URICA items (n=42), to be similar.

Table 10.12: Pearson's correlation coefficients for original URICA scores with modified URICA scores, considering counterbalanced items.

	Original items followed by modified items n=44	Modified items followed by original items n=42
Pre score for original URICA with Pre score for modified URICA	.806	.751
Con score for original URICA with Con score for modified URICA	.834	.951
Act score for original URICA with Act score for modified URICA	.855	.912
Main score for original URICA with Main score for modified URICA	.877	.938
Total score for original URICA with total score for modified URICA	.782	.951
Stage allocation for original URICA with stage allocation for modified URICA	.798	.738

As Table 10.12 illustrates the order in which a subject answers the URICA items, i.e. original or modified statements first, does not significantly affect how well the two versions of the URICA correlate.

### Factor Analysis

In order to examine further the psychometric properties of the original and modified questionnaires the technique of factor analysis was employed.

A separate factor analysis was carried out for each questionnaire (that is for the original questionnaire and the modified version used in this thesis). Using the factor analysis program on SPSS an initial principal components analysis was performed in order to reveal eigenvalues. Following this all variables



with eigenvalues of 1 or greater (Kaiser's criterion) were subject to a varimax rotation. In each case 3 eigenvalues greater than 1 emerged. Table 10.13 below gives the 3 eigenvalues and the percentage of variance accounted for.

**Table 10.13**

Original Questionnaire				Modified Questionnaire			
Factor	Eigenvalue	Pct of Var	Cum Pct	Factor	Eigenvalue	Pct of Var	Cum Pct
1	14.032	58.5	58.46	1	15.168	63.2	63.20
2	2.051	8.5	67.01	2	1.690	7.0	70.24
3	1.277	5.3	72.34	3	1.165	4.8	75.09

Results of the varimax rotation are presented below (table 10.14) giving factor loading for both questionnaires. In each case the highest six loadings are presented. The decision to present the highest six was based upon the fact that each subscale of the questionnaire comprises of six items. A full table of all factor loadings is given in the appendix.

**Table 10.14: Questionnaire items and corresponding factor loadings**

Factor 1 from original Q	Factor 1 from modified Q	Factor 2 from original Q	Factor 2 from modified Q	Factor 3 from original Q	Factor 3 from modified Q
Q3 .91377	Q6 .89584	Q24	Q19	Q16	Q16
Q6 .84252	Q3 .89229	Q12	Q22	Q19	Q9 .64184
Q11	Q5 .85676	Q13	Q2 .57368	Q9 .51195	Q1 .28621
Q18	Q24	Q10	Q7 .52815	Q4 .44372	Q4 .27089
Q8 .74324	Q8 .85524	Q15	Q17	Q2 .32685	Q22
Q14	Q20	Q7 .65010	Q4 .36088	Q10	Q15

Precontemplation Questions

Action Questions

Contemplation Questions

Maintenance Questions

Factor one:

In the original version of the URICA questionnaire factor one emerges with a high degree of coherence. The loadings suggest that this may be some form of "action" factor.

The modified version also picks out the two highest loading from the original and also question 8. However two further items are imported into this cluster which are related to maintenance. The coherence of factor one in the



modified version is therefore less than in the original, although the factor is still marked by the same two principle variables.

#### Factor Two:

On the basis of these data factor two appears to be something of a mixture. The original questionnaire identifies three maintenance items and three contemplation items. In the modified version three contemplation items are also identified, although only one of these is the same as the original version. Furthermore, the modified version also includes three precontemplation items non of which occur in the original. It would appear that in both cases the present data fail to reveal strong coherence in factor two. Therefore, apart from some possible overlap in terms of contemplation, the data suggest they may be measuring slightly different things.

#### Factor Three:

Factor three appears to focus on precontemplation issues. The original questionnaire identifies four items relating to precontemplation. Two contemplation items are also included in this factor. However, the principle factor loadings identify this as primarily a precontemplation factor.

In the modified version the identification of precontemplation as the underlying dimension is even stronger. Five out of the six items relate to precontemplation and three of these items are the same as those identified in the original questionnaire. Therefore, overall the modified version seems more coherent in terms of precontemplation than the original.

#### Summary

Whilst there are identifiable similarities between the two versions of the questionnaire, it is clear that there are also some interesting differences. On the basis of these data it appears that whilst the original questionnaire is highly coherent in terms of the action items with the modified slightly less so, the opposite is the case with respect to precontemplation. In this case, the modified version of the questionnaire appears to identify precontemplative issues with slightly greater reliability than the original. The change in the wording and presentation of the questionnaire appears to have therefore shifted the focus of the modified questionnaire in some sense, in relation to the original. Whilst the original performs in a more focused fashion in the later stages of the model, the modified version performs more crisply at the early stages of the model. Finally, in both cases factor two appears to be something of a compromise between competing forces.



It is worth repeating that one of the original aims of modifying the original questionnaire was to make it more appropriate for those subjects not yet in treatment, and consequently in the early stages of the process. It is reassuring therefore that the performance of the modified whilst less satisfactory at the latter stages appears to match or even exceed slightly the performance of the original questionnaire for those not in treatment.

## DISCUSSION

The aim of the pilot study reported in this chapter was to construct and test an alternative version of the Prochaska and DiClemente Change Assessment Questionnaire (commonly known as the URICA). The rationale being that the items in the original URICA were worded in such a way that the instrument was unsuitable for use with individuals who did not perceive their alcohol use as problematic.

Of the original URICA items, 24 were selected and matched with 24 modified items. This resulted in a questionnaire which was tested with a total of 86 subjects both in and out of agency contact. Correlational analyses were then used to determine whether subjects responded differently to each set of questions.

Pearson correlation coefficients between each of the original questions and its modified version gave good coefficients of above .7 for 19 out of the 24 questions. Of the remaining five questions two were above .6; two were above .5 and the lowest was .408. These are therefore generally satisfactory.

Had it not been necessary to reduce the length of the URICA (ideally) all 32 items should have been used and the questions which produced the lowest correlation coefficients discarded. However the most important of the correlation coefficients are those displayed in Table 10.4, these coefficients illustrate the strength of the correlation between the scores for each of the two URICAs.

For all subjects (n=86), coefficients range from .763 to .907. Again, these are very satisfactory and allow the conclusion that minimal alterations to the wording of the original URICA items does not significantly affect subject responses. Therefore, if subject responses remain consistent across the two

sets of questionnaire items this indicates that each instrument (i.e. original and modified) measures the same thing.

The only disappointing correlation coefficient was stage allocation between the original and modified URICA, for subjects in agency contact (.346) see Table 10.4. To explore this result further Table 10.7 illustrates the distribution of subjects across each stage of change and reveals a pronounced difference in distribution according to agency contact. For example, the incidence of agency subjects increases, and the incidence of non-agency subjects decreases, with progression through the stages of the model. Movement through the stages requires an attitude and behavioural shift by the individual from that of no perceived problem to acknowledgement and then action concerning the problem.

The subject distribution across stages is therefore consistent with what one would expect for a stage model of change, as individuals who have made agency contact will have progressed beyond precontemplation which is characterised by the absence of any perceived problem.

As Table 10.7 shows, very few non-agency subjects were found in the action stage and even fewer in the maintenance stage. This supports the assumption made by Rollnick and Heather during the development of the Readiness to Change Questionnaire, that a maintenance stage is not necessary when using the URICA with drinkers outside agency contact.

If stage allocation differs greatly in relation to agency contact then so must the scores for each stage.

The mean scores in Table 10.5 provide further evidence that the modified URICA achieves the same measure of stage of change as the original, since the mean scores for each are very similar. The means also demonstrate that agency subjects scores across contemplation, action and maintenance stages (for both instruments) show very little discrimination. Because the highest of the four scores determines stage allocation it is therefore easy to see how a subject might fall into different stages for the original and modified URICA.

Consider the following profile of scores:



**Subject No. 84 (in agency contact)**

<b>Precontemplation</b> 9* : 8**	<b>Contemplation</b> 24* : 25**	<b>Action</b> 26* : 24**	<b>Maintenance</b> 24* : 23**
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\* = scores on original URICA

\*\*= scores on modified URICA

For the original URICA subject No. 84 is allocated to the action stage, for the modified URICA No. 84 is allocated to the contemplation stage.

This feature is a problem with the URICA and has been observed by critics of the Stage of Change model (Sutton 1994).

It is reasonable to conclude that the lower stage correlation for agency subjects shown in Table 10.5 is a result of inadequate differentiation between certain stages, as measured by the URICA, rather than a difference in measurement power between the original and modified URICA.

Another point to note concerns the difference in means between the original and modified URICA for each score. As shown in Table 10.5 differences between the two means for each stage are negligible for agency subjects and standard deviations from the mean are considerably lower compared with non-agency subjects. This indicates, as one might expect, that the agency subjects were a more homogeneous group who were more focused on their drinking habits and experienced at disclosing their alcohol use. This group would be less likely to give different answers to the two sets of questions. However the non-agency group consisted of a more extensive sample of the general population and some questions would be less salient to this group, so greater variation in responses from the non-agency subjects across each version of the URICA was expected.

Finally, on test-retest reliability the modified URICA equals the original URICA. Two of the twelve correlations were not statistically significant (see table 10.11), but the rest produced good coefficients ranging from 0.74 to 0.96.

In addition to the correlational analyses employed to assess the relationship between the original and modified questionnaires, two separate analyses of variance were computed (see Table 10.6 (a) and (b)). Each demonstrated no significant difference in scores across the two questionnaires.

The use of factor analysis offered an alternative approach in the investigation of the questionnaire data, by analysing the structure of each questionnaire separately. Whilst each factor analysis identified three factors for each questionnaire, there was some variability in terms of the most heavily weighted items comprising each factor. Nevertheless, it would appear that each factor resulting from the analysis of the original questionnaire was more similar than dissimilar to its corresponding factor from the analysis of the modified questionnaire.

In conclusion, the results of comparing the original URICA with a modified version indicate that minimal alteration to the wording of the original URICA did not produce major differences in the measurement of stage of change. The primary aim of this pilot study was to modify the URICA, in order that it could be used with a more varied subject sample while retaining its original measurement capability. This, it would appear, has been achieved.



## **Chapter 11**

### **Methodology**

#### **Design**

##### **Aims**

The aim of the PhD study is a longitudinal assessment of explanation and behaviour shift in alcohol users comparing two models of substance use and treatment.

The current study examines the efficacy, predictiveness and applicability of the two models with different treatment and non-treatment groups of alcohol users. In addition the study also assesses whether progression through the stages of either model differs according to the type of treatment intervention. Rosenberg's Self-esteem Inventory and the Alcohol Use Disorders Identification Test are also included to enable further comparisons to be made between the models and agencies.

##### **Plan and research design/methodology**

The research is a longitudinal study which applies two theoretical models employing contrasting methods to alcohol users from diverse groups and locations.

The design includes both within and between subject measures - the repeated measure involves the assessment of each subject on two separate occasions, at recruitment and at a 6-month follow-up. This provides information about shifts in each subject's substance-related behaviour, as measured by each of the theoretical models, as well as changes in self-esteem and problematic alcohol use (as measured by Rosenberg's Self-esteem Inventory and the AUDIT) with which any such shifts can be correlated.

The between subject aspect of the design is based on types of classification, the first level of which is dependent on whether subjects are in contact with treatment agencies at the start of the research (i.e. at recruitment, 35 subjects were in agency contact and 26 subjects have no agency contact). However, there is a further distinction within the agency group which consists of three subconditions, each representing a different type of treatment intervention.

The agencies providing treatment and/or support for individuals with problematic alcohol use, from which subjects were recruited for the current study included The Drug and Alcohol Resource Team (Borders Health Trust), Alcoholics Anonymous and the Scottish Council for Alcohol (Borders Council).

The Stages of Change Model employs a forced-choice questionnaire which was combined with the self-esteem and AUDIT questionnaires, and is presented as a single questionnaire. In contrast, the Functional Discursive Model is based on a 15- minute unstructured interview.

The study produces a substantial amount of triangulated data, providing a comprehensive picture of subject's alcohol use across conditions. In addition to charting an individual's shifts within each theoretical model and the relationship with self-esteem and levels of problematic alcohol use, the study also considers the viability of each model and the effectiveness of different treatment approaches for particular groups of individuals.

In terms of innovations in client and patient care, the Prochaska and DiClemente Transtheoretical Model has been very influential and is widely used in treatment programmes; this study tests its applicability and efficacy not only in clinical settings where it is usually applied, but also to a non-treatment group for which its suitability has been questioned. The Functional Discursive Model of addiction offers a new and innovative approach to categorisation and subsequent treatment of substance users. This study provides an opportunity for it to be rigorously tested longitudinally against an established model, using a subject sample at different stages of alcohol use, undergoing different treatment regimes.

## **Measurements and Instruments**

### **Interview**

The five-stage discursive model uses an unstructured interview (tape-recorded and subsequently transcribed) to elicit "natural" attributions about an individual's substance use. The interview is coded according to the model's coding mechanism, which then allows allocation to one of five stages that exemplify the model. (The model and the methodology it employs is discussed extensively in Chapter 4)



While the model postulates stage five divides into either positive or negative, the current study was found to include only subjects at stage five positive. Therefore, during the data analyses to follow, any reference to stage five of the Functional Discursive Model refers only to stage five positive (this is regarded as the “recovered” stage in the model).

### Questionnaires

The University of Rhode Island Change Assessment Scale (URICA) was originally a 32 item questionnaire developed by McConaughy, Velicer and Prochaska (1983) to allocate an individual to one of four stages of change regarding their addictive behaviour. For the purposes of this study, the URICA was reduced and modified to 24 items incorporating four six (instead of 8)-item subscales. Each item requires a response on a five-point Likert scale of agreement. The pilot study carried out to modify the URICA is described in chapter 10.

The Rosenberg Self-Esteem Inventory developed by Rosenberg (1965) to measure an individual's self-esteem contains 10 short items which have a four-point response scale of agreement. Unlike the URICA, the agreement scale does not include the middle value but, nevertheless, could be considered similar in presentation. The RSE and self-esteem are more thoroughly discussed in Chapter 8.

The Alcohol Use Disorders Identification Test (AUDIT; Babor, de la Fuente, Saunders and Grant 1989) is a 10-item forced-choice questionnaire designed to identify individuals whose alcohol use is potentially problematic. It incorporates three subscales measuring hazardous consumption, harmful consumption and dependence symptoms. The AUDIT is detailed in Chapter 7.

Selected demographic details were collected. If not disclosed unprompted during the unstructured interview, they were elicited at the end.

(Check list of such details: sex, location, age, marital and employment status).

## **Pilot studies**

The pilot study described in chapter 10, "Modifying the Prochaska and DiClemente Change Assessment Questionnaire (URICA)", explains how and why the original URICA was modified. The study recruited 86 alcohol users both in and out of agency contact and provided an opportunity to uncover and adjust any potential problems before proceeding with the main study.

Prior to registering for the PhD the author completed an MSc in Research Methods. This included conducting and writing up a 6-month research project, which applied the Functional Discursive Model and the Transtheoretical Model to 32 drug users. The drug users formed two groups: those in current agency contact and those with no agency contact. As with the PhD study, the subjects participated in an unstructured interview and completed the URICA questionnaire.

The MSc research project was the precursor to the PhD research and as such was significant in influencing how the larger study was approached. It also provided the author with experience of contacting agencies, recruiting subjects, preparing the questionnaire, conducting the unstructured interview, transcribing and coding interviews, and preparing data for analysis.

## **Procedure**

The first round of interviews began the 11th January 1996 and finished 1st May 1996, with recruitment taking place continuously during this period. The second round of interviews took place between 6th July 1996 and 15th November 1996.

## **Recruitment of subjects**

The study was carried out in the Borders Region of Scotland, which dictated the available agencies from which subjects could be recruited.

During the preparation phase of the research there were a total of four agencies in the Borders Region which offered help to individuals experiencing problems with alcohol use. Of these four agencies, three agreed to approach their clientele on behalf of the author.



Once contact had been established between the volunteers and the author, it was made clear to them that the agency from which they were recruited would have no further involvement in the study.

### Alcoholics Anonymous

Initially contacting members of Alcoholics Anonymous (AA) locally proved to be problematic owing to issues of anonymity. However, once contact was made with a member who was less protective of his anonymity, agreement was elicited from this individual to distribute copies of an introductory letter explaining the study (see appendix) to members at local AA meetings. The same individual would then make and keep the list of those AA members who agreed to be interviewed. Any AA members who wished to remain anonymous could then be contacted by, and interviewed at the home of this individual.

This approach did not produce any subjects. It appeared that the introductory letter alone was not sufficient to persuade AA members to agree to participate. A possible explanation for this could be the issue of anonymity.

The next step was therefore to attend an open AA meeting as a guest of the above mentioned individual.

Alcoholics Anonymous regularly hold "open" meetings to allow invited friends and relatives of members to witness for themselves what happens at AA meetings. Members are always informed when an open meeting is to take place, which allows those who wish to protect their anonymity to avoid that particular meeting. It was therefore predicted that those members who attend open AA meetings would be less concerned about remaining anonymous and may prove to be more approachable in terms of recruitment. Attendance at two local open AA meetings resulted in the recruitment of 11 AA members. At each meeting the author introduced herself to the group and explained why she was there. The introductory letter was handed round. Individuals who agreed to participate were offered the option of remaining anonymous to the author by using another member as a "go-between" and conducting the interviews at his home. However, this proved unnecessary: reassured that their anonymity would be respected, each individual gave their home telephone number.

Appointments were subsequently arranged by telephone, eight members agreed to be seen in their own homes and three chose to meet at the home of the author.

#### Borders Council for Alcohol

A phone call to the director of the Borders Council for Alcohol (BCA), secured an appointment to meet with and explain the proposed study.

The BCA was willing to recruit subjects from their client group. However, they suggested sending a letter with a response slip and stamped addressed envelope to the homes of clients rather than asking each counsellor to approach their own clients at counselling sessions. This approach was adopted because the BCA did not want to put any pressure on individuals at counselling sessions which might seem to exploit the client-counsellor relationship (for example, a client might agree to participate in the study in order to “please” their counsellor).

A letter was prepared and copies were forwarded by the BCA secretary as the names and addresses of clients cannot be revealed outside the service without consent.

Of the 46 BCA clients who were sent the introductory letter 25 replied by returning the response slip to the BCA office. A total of 21 individuals indicated a willingness to participate in the study. Acting as a go-between, the BCA secretary contacted each individual to arrange convenient appointments. Five subjects were happy to be visited in their own homes, and gave consent for their names and addresses to be passed on to the author. The remaining 16 subjects preferred not to reveal their identity, choosing the option of being interviewed on neutral ground. The BCA offered to coordinate this, suggesting that these subjects be seen at the place of their usual counselling session. For some subjects this was the counselling room at the BCA’s office premises, for others the Health Centre in their local town.

Three individuals did not keep their appointments and attempts to arrange an alternative ones proved unsuccessful. Therefore, the total of number subjects recruited from the BCA was 18.

#### Drug and Alcohol Resource Team

Dingleton Psychiatric Hospital, Melrose, Roxburghshire was contacted and an appointment to discuss the proposed study arranged with the Service



Performance Manager responsible for DART. Because the author periodically worked with the clinical psychologists based at the hospital, issues of confidentiality and access to patients/clients were covered by her honorary employment contract with Borders Health Board. A copy of the research proposal was requested. Ethical approval was not deemed necessary.

The four members of the hospital based Drug and Alcohol team (DART) all agreed to distribute an introductory letter explaining the study, selecting clients whose substance abuse was specific to alcohol. Unfortunately, staff changes and the appointment of new staff impeded this process and resulted in fewer subjects being recruited in the time allowed than had been predicted.

Of the DART clients asked to participate eight agreed and gave their consent for their names and addresses/phone numbers to be passed on to the author.

Two individuals did not keep their appointments, resulting in a total of six subjects recruited from DART.

#### Recruitment of non-agency subjects: snowball sampling

Recruitment began by identifying individuals in the community who were well known amongst “regulars” in local public houses to be heavy drinkers, for example, they might spend a lot of time in the pub, appear to spend a lot of money on drinking, or regularly be seen intoxicated.

When approached, such individuals were asked if they would be interested in participating in a study about “drinking”. If willing, they were asked if they normally drank more or less than 10 pints of beer per week. If they answered that they didn't drink pints they were asked what they did drink. If the individual was female the amount was set at 7 pints or equivalent. Those individuals who said they drank less than the amount stated were told they did not meet the criterion.

This criterion for non-agency subjects was set using the “safe weekly alcohol limits” as recommended by the Department of Health (the safe alcohol limits have subsequently been revised). At the time of subject recruitment the guidelines were as follows. One unit of alcohol = half a pint of beer (3-4%vol.) = 1 small glass of wine = 1 glass of sherry = 1 pub measure of spirits; safe weekly alcohol limits are 21 units for men and 14 units for women.

Based on these guidelines a man drinking more than 10 pints a week would be exceeding the suggested safe limits.

It was important that the non-agency group contained subjects who drank similar quantities of alcohol to those subjects in agency contact, otherwise comparisons between the two groups would be limited. It would appear that using “units consumed per week” as a rough guideline was a satisfactory way of selecting individuals, not in agency contact, who drank at potentially harmful levels. This was supported when subjects were subsequently given the Alcohol Use Disorders Identification Test (AUDIT). Non-agency subjects scored higher than agency subjects. However, as will be discussed later, around one-third of agency subjects were abstinent at initial contact and therefore scored low on the AUDIT, bringing down the overall mean for the agency group.

Table 11.1: Summary details of AUDIT scores.

AUDIT scores for the non-agency group:

N	Mean	Std Dev	Range	Minimum	Maximum
26	21.12	7.40	27.00	11.00	38.00

AUDIT scores for the agency group:

N	Mean	Std Dev	Range	Minimum	Maximum
35	13.03	10.61	35.00	.00	35.00

The dialogue used during any of the conversations at this stage of recruitment avoided the use of terms such as “problem” “control” “difficulties”, etc., since it was the authors intention that individuals recruited for the non-agency group would not necessarily perceive their own drinking habits as problematic.

If an individual drank “enough” weekly units to be included in the study they were given an introductory letter. Each was offered a choice of where they would prefer to be interviewed (at the authors house or their own home), and appointments were arranged.



When interviewed later, each subject was asked if they knew of anyone else who drank a similar amount of alcohol to themselves, who might also be willing to participate. This proved to be a very effective way of recruiting subjects because it removed much of the suspicion and distrust which is inevitable when one person attempts to solicit information from another if both are unknown to each other. This approach allowed subjects who had already been interviewed to relieve any reservations their friends might have. This was reflected in appointment attendance (100%) of non-agency subjects. Of the 26 subjects recruited in this way four chose not to be seen in their own homes, choosing instead the option of visiting the author's home.

It should be noted that recruiting non-agency subjects in this way meant this group was confined to a smaller area of the Borders Region, i.e. three or four towns. This was because when subjects were asked to suggest other suitable individuals they frequently chose their own "drinking companions", who usually lived in the same town.

Because of the population spread in the Borders Region it would have been impossible to recruit an adequate number of agency subjects from a few selected towns. The agencies from which clients were recruited for this study cover an area of 60 square miles. This was reflected in the spread of agency subjects, who were recruited from a total of 16 towns and villages in the Borders Region.

Recruitment of the non-agency group was less time-consuming and more spontaneous as it was not necessary to follow the same mandated steps required to secure the participation of agency clients. Also, interviews with non-agency subjects did not involve extensive travelling as this group was more localised. Whenever possible, appointments were arranged for individuals living in the same towns to be seen on the same day, to save on travelling costs and time. However, in practice, this was often confounded by an individual's working hours and family commitments.

### **Interview procedure**

The interviewer began by reiterating the information contained in the introductory letter used to recruit subjects, explaining to the subject the

purpose of the research and reassuring them of complete confidentiality and respect for anonymity.

The interviewer then outlined how the interview would proceed, i.e. a brief "chat" about the individuals alcohol use followed by the completion of a questionnaire.

Subjects were then asked if they objected to the interview being taped. Once reassured tapes would be erased at a later date, all subjects agreed.

Using a Dictaphone allowed the interview to flow uninterrupted. This was preferable to having to write verbatim everything the subjects said, which would have meant frequently stopping the flow of dialogue.

The interviewer began the interview by asking the question "Can you tell me about your alcohol use?". Some subjects responded giving an unfaltering account of their alcohol use which covered all areas necessary to allow subsequent coding. Other subjects produced very short answers to the prompt questions and therefore required probing.

Whenever possible "why?" questions were used to encourage natural attributions; questions which could be answered with a simple yes or no answer (closed questions) were avoided. The interview was brought to a close when the interviewer felt enough information had been elicited from the subject to allow the discourse to be coded. Taping was stopped and subjects were given the questionnaire to fill in. Each taped interview and accompanying questionnaire were given the same number.

The interviewer remained with the subject to clarify any confusion surrounding how to fill in the questionnaire or interpret the questions; for example, a number of subjects commented on the Prochaska and DiClemente questions remarking that several "did not make sense" or were "practically the same". Four subjects asked the interviewer to read and complete the questionnaire for them.

At the end of the meeting subjects were thanked for their participation and reminded they would be contacted in 6 months.

The first round of interviews lasted between 10 minutes and 2 hours depending on how much each subject wished to say. The average interview took around 20 minutes (this did not include the time required to fill in the questionnaires).

Interviews with AA members were invariably the longest; subjects would often begin by stating they would prefer to speak as if they were doing a



“share”. A “share” is the term used at AA meetings to describe when a member speaks uninterrupted in front of the group about his or her history of alcohol problems. A share may sometimes be concise but very often will digress to a history of the individuals whole life! AA members are generally (and particularly if they have been a member for a long time) very well practised at talking about their alcohol problems and all tend to use similar dialogue when recounting their experiences. AA subjects, in addition to being quite comfortable talking about their drinking “career”, had more to say than the other groups, although much of this was not always relevant.

The interviewer allowed subjects who did not require prompting to speak uninterrupted, providing them the opportunity to cover the relevant subject matter spontaneously in their own time rather than guiding the discourse with a series of questions. As a result of adopting this approach some interviews (i.e. those with AA subjects) were longer than anticipated.

The author was of the opinion that by not restricting subjects discourse (within reason) but allowing them to choose much of the content around the central theme would achieve the following:

(1) Relieve anxiety and allow subjects to relax as they realised they were not going to be asked personal or embarrassing questions they did not want to answer.

(2) Allowing subjects to speak freely helped with rapport building, which it was felt might facilitate compliance when they were re-contacted for the second round of interviews 6 months later.

(3) Had subjects been confronted with a series of questions some individuals may have misconstrued them as judgmental and become defensive.

Because subjects were asked a very open-ended question to start the interview, this allowed them to a certain extent to set their own agenda. As a result, clear differences in approach emerged according to type of agency. As mentioned above, AA subjects treated the interview like a “share” at an AA meeting. In contrast BCA subjects had a tendency to treat the interviewer as a counsellor and many diverged into detailed accounts of their personal problems.

Non-agency subjects, however, often found the opening question of the interview too vague, and frequently looked for more direction by responding to the interviewer’s question “Can you tell me about your drinking?” by asking another question, e.g. “What do you want to know?”.

In general, the non-agency subjects needed to be prompted more as some appeared unsure of what was required of them. In contrast, agency subjects were better practised at talking about their alcohol use perhaps, one could assume, because it was not a new experience.

Interviewing individuals in their own home was considered preferable because the home environment is less anxiety provoking. The home environment was also found to contribute to rapport building, for example subjects visited in their own homes frequently offered the interviewer tea/coffee and engaged in general "chit-chat" before and after the interview. Conscious of interviewer effects, i.e. the impact of self-presentation (Davies and Baker 1987) the interviewer dressed informally in an attempt to prevent giving the impression of professional status or any affiliation with agencies .

### Follow-up interviews

Each subject was contacted again 6 months after their first interview to arrange a second appointment.

The BCA held the names and addresses of 11 subjects who the secretary re-contacted. Of this group six were seen at the BCA office premises or their local Health Centres as before. One subject chose to be visited at home for the second interview, three subjects did not respond to follow-up contact, and one had emigrated to America. The author held the remainder of names and addresses (50 subjects), and arranged follow-up appointments. One non-agency subject could not be re-contacted as he had moved 400 miles, and one DART subject was deceased. A total of six subjects were missing from the follow-up interviews.

The second round of interviews proceeded smoothly, with subjects generally more relaxed, possibly because they knew what was expected of them and the interviewer was more familiar. Interviews which had been excessively long the first time (i.e. 2 hours!) were kept much shorter by concentrating on the 6 month period since subjects were last interviewed thereby avoiding a repeat of the long history of problematic alcohol use which had characterised some of the first interviews.

### Order effects

The decision to proceed first with the interview followed by the questionnaire is supported by evidence which indicates that a questionnaire, by virtue of



its structured questions, can become a “learning exercise”, creating an agenda for the subject which can spill over into the subsequent interview and influence their discourse.

An evaluation report for the “Fast Forward Peer Research Project” states the following:

“Participants who completed the questionnaire prior to taking part in the interview expressed significantly more negative attitudes towards drugs in the interview than those who had taken part in the interview before completing the questionnaire. Therefore the questionnaire appeared to have cued participants into reporting negative attitudes in their interviews.” (Best *et al* 1995)

Although the questionnaire was presented as a single questionnaire with all questions following continuously, it consisted of three distinct questionnaires, namely (i) URICA, (ii) AUDIT, and (iii) Rosenberg’s measure of self-esteem (RSE), thereby creating the potential for order effects. For example, could answering questions concerned with how much an individual drank, i.e. “How many drinks containing alcohol do you have on a typical day when you are drinking?” (AUDIT), affect subsequent questions measuring an individual’s judgment of how problematic they perceive their alcohol use to be, i.e. “I don’t have a problem with my alcohol use. It doesn’t make much sense for me to seek treatment” (URICA).

To control for order effects the three individual questionnaires were counterbalanced, which produced six possible combinations i.e. (version 1) RSE-URICA-AUDIT, (version 2) URICA-RSE-AUDIT, (3) RSE-URICA-AUDIT, (4) AUDIT-URICA-RSE, (5) URICA-AUDIT-RSE, and (6) AUDIT-RSE-URICA. Equal numbers of each version were prepared and randomly assigned to subjects. If a subject completed version 1 at the first interview, they also completed version 1 at the second interview.

#### Preparing raw data for analysis

The recorded interviews were transcribed (unedited) and the discourse coded on each of the seven dimensions which collectively assign a subjects to one of the five stages of the discursive model.

The questionnaire was divided into its three parts and each was marked according to its own scoring mechanism.

## Subjects

At initial contact, subjects formed two main groups. A non-agency group and an agency group.

### The agency group

This group divided into three subgroups according to the type of agency subjects were involved with: nine male and two female (31.4%) were members of Alcoholics Anonymous; 13 male and five female (51.4%) were in regular contact with the Borders Council for Alcohol; four male and two female (17.2%) were in regular contact with the Drug and Alcohol Resource Team; and 35 agency subjects formed 57% of the total sample.

### The non-agency group

A total of 26 subjects (19 male) had no current agency contact. However, within this group three subjects (11.5%) had previously completed some form of treatment programme, and four subjects (15.3%) had previously been introduced to an agency but had rejected any participation in treatment.

Table 11.2: Age, employment and marital status of subject sample

	Non-agency (n=26)	AA (n=11)	BCA (n=18)	DART (n=6)	% of total sample
<b>Age in yrs</b>					
mean	33.5	48	46.2	51	
SD	8.8	11	11.2	20	
range	19-50	30-70	25-65	27-78	
<b>Employment status</b>					
employed	17	6	11	2	57.3%
unemployed	7	1	6	2	26.2%
student	3	2	0	0	8.1%
retired	0	2	1	2	8.1%
<b>Marital status</b>					
single	14	7	10	4	57.3%
married/co-hab	12	4	8	2	42.7%



## **Coding reliability**

Two additional markers were enlisted to verify the reliability of the author's coding of the interview transcripts. Rater one was the author of the Functional Discursive model. Rater two was also familiar with the model and coding mechanism, having been involved in an extensive research study which applied the model to a large sample of drug users (Davies *et al* 1995).

After coding all the transcripts the author (rater 3) selected 10 of the most ambiguous transcripts, copies of which were given to both additional markers, see table 11.3.

With the exception of one example (subject 31, rater 2), discrepancies in stage allocation are confined to indecision between stages two and stage four.

If information is limited on the addiction dimension, distinguishing between a stage two and a stage four profile is more difficult than discriminating between other stages. This is because the other dimension scores, i.e. purposiveness, hedonism, generalisability and time, are very similar for both a stage two and a stage four classification; contradictoriness is present at both stages. This means that addiction is the most significant dimension when deciding between a stage two and a stage four profile; addiction being present at stage four but absent at stage two. When a transcript contains no explicit reference to addiction it is often useful to refer to reductionism: if physiological reductionism is present addiction may be inferred.

However, the reductionism dimension proved to be least useful for coding purposes (except under circumstances just described) and was therefore not included in the subsequent data analysis.

**Table 11.3: Dimension scores for 10 selected transcripts independently coded by three raters**

	PUR	HED	GEN	TIM	RED	ADD	CON	
STA								
Subject No 5								
Rater 1	2	3	3	3	3	ab	pr	2
Rater 2	3	3	3	3	1/2/3	ab	pr	2
Rater 3	4	3	3	3	1/3	ab	pr	2
Subject No 6								
Rater 1	1	1	5	3	-	ab	ab	1
Rater 2	1	1	5	1	-	ab	ab	1
Rater 3	1	1	5	1	1/3	ab	ab	1
Subject No 31								
Rater 1	5	5	3	4	2	pr	ab	3
Rater 2	5	5	1	4	2	pr	ab	4
Rater 3	5	5	1	4	1/2	pr	ab	3
Subject No 41								
Rater 1	3	5	2	5	1	ab	pr	2or 4
Rater 2	4	4	1	5	1/2	ab	pr	2or 4
Rater 3	5	5	1	5	1/2	?	pr	4
Subject No 43								
Rater 1	2	2	2	3	3	ab	pr	2or 4
Rater 2	3	2	1	3	1/3	ab	pr	2
Rater 3	3	2	3	3	1/3	ab	pr	2
Subject No 45								
Rater 1	4	5	3	5	3	pr	ab	3
Rater 2	5	5	1	3	2	pr	ab	3
Rater 3	5	5	1	5	1/3	pr	ab	3
Subject No 47								
Rater 1	5	5	2	4	2	pr	ab	3
Rater 2	5	4	1	5	-	pr	?	3or 4
Rater 3	5	5	1	5	2	pr	ab	3
Subject No 53								
Rater 1	4	3	3	3	3	?	pr	4
Rater 2	3	5	1	3	3	pr	pr	4
Rater 3	4	3	1	3	1	pr	pr	4
Subject No 60								
Rater 1	4	1	5	5	-		pr	4
Rater 2	4	3	1	3	2	pr	pr	4
Rater 3	4	2	1	4	1/2/3	pr	pr	4
Subject No 61								
Rater 1	2	3	-	-	2	?	pr	2or 4
Rater 2	3	4	2	5	1/2	?	?	2or 4
Rater 3	3	3	3	3	1/2	?	pr	4

PUR = Purposiveness coded on the scale 1 - 5 (1= high, 5 = low)

HED = Hedonism coded on the scale 1 - 5

GEN = Generalisability coded on the scale 1 - 5

TIM = Time coded on the scale 1 - 5

RED = Reductionism as any combination of: 1 = psychological 2 = physiological 3 = sociological

ADD = Addiction coded as: ab = absent pr = present

CON = Contradictoriness coded as: ab = absent pr = present

STA = Stage allocation from 1 to 5

(- = missing data, ? = raters could not decide)



The three raters discussed the results of coding the 10 transcripts to corroborate the criteria used to code each dimension. When satisfied that the coding mechanism was being applied consistently, the remaining transcripts (51) from the first round of interviews were randomly distributed between rater one and rater two. When all transcripts were coded this resulted in two completed coding sheets for each transcribed interview (rater three coded all transcripts). Transcripts from the follow-up interviews were divided between raters one and two, with each rater marking the same subjects transcripts as for the first round of data collection (rater three coded all follow-up transcripts).

Pearson correlation coefficients were calculated for scores awarded by rater one and rater three for each dimension (with the exception of dimensions addiction and contradictoriness), then repeated for scores awarded by rater two and rater three. Because the two dimensions - addiction and contradictoriness - are coded as dichotomous nominal data, a Phi co-efficient was calculated instead of Pearson's.

**Table 11.4: Correlation coefficients for dimension scores awarded by raters one and three, and raters two and three**

<u>Dimension:</u>	<u>Rater one and Rater three</u>		<u>Rater two and Rater three</u>	
	Time 1	Time 2	Time 1	Time 2
Purposiveness	.877 (n=27)	.705 (n=26)	.912 (n=27)	.943 (n=23)
Hedonism	.828 (n=27)	.753 (n=26)	.889 (n=27)	.919 (n=24)
Generalisability	.705 (n=27)	.583*(n=26)	.800 (n=27)	.828 (n=24)
Time	.676 (n=27)	.559*(n=26)	.875 (n=27)	.852 (n=24)
Addiction	1.0 (n=30)	1.0 (n=29)	.927 (n=27)	1.0 (n=24)
Contradictoriness	.935 (n=30)	1.0 (n=27)	.845 (n=26)	1.0 (n=23)

All co-efficients statistically significant  $p < .001$ , except \*  $p < .01$

(Subject numbers vary as a result of missing data on some coding sheets and the reduction of sample size at time 2)

The high correlation coefficients displayed in table 11.4, demonstrate a strong relationship between the coding of rater one and rater two with rater three.

To further confirm coding reliability the proportion of agreement between rater one and three, and rater two and three was also calculated.

Using a three point scale for each dimension, the index of concordance was calculated.

The computation of the index of concordance (agreement) is as follows:

$$\frac{(\text{number of agreements})}{(\text{number of agreements} + \text{number of disagreements})}$$

The concordance for each dimension is expressed as a percentage. Table 11.5 illustrates the index of agreement between the coding of raters one and two with rater three for each of the discursive dimensions. Satisfactory levels of concordance are demonstrated, with 37.5% of the concordance between rater one/two with rater three falling between 60 and 80%, and 62.5% of concordance falling between 80 and 100%.

Table 11.5: Index of agreement between dimension scores awarded by each rater

<u>Dimension:</u>	<u>Rater one &amp; Rater three</u>		<u>Rater two &amp; Rater three</u>	
	Time 1	Time 2	Time 1	Time 2
Purposiveness	94.4%	67.0%	92.8%	96.0%
Hedonism	77.7%	82.7%	78.5%	100%
Generalisability	83.3%	68.9%	78.5%	88.0%
Time	66.6%	72.4%	71.4%	96.0%
Addiction	100%	93.7%	84.0%	100%
Contradictoriness	75.0%	88.2%	88.0%	100%



Finally, Kappa co-efficients were computed with the aim of adding further statistical weight to the coding reliability study. However, the appropriate statistical analysis for these data (hedonism, purposiveness, generalisability and time dimensions) is the weighted kappa co-efficient, which takes into account the fact that the data are not independent categories but are ordinal scales underlined by a single dimension.

Under a normal (Cohen's) kappa co-efficient calculation any failure to endorse the same category counts as a disagreement. However, where there is an underlying dimension (such as Likert scale) it is necessary to take into account the fact that a "1" (for example) and a "5" represent a more fundamental disagreement than a "1" and a "2". Weighted kappa takes this into account.

In contrast, when measuring rater agreement for discursive dimensions - addiction and contradictoriness - the normal kappa co-efficient can be computed, as these two dimensions are more clearly coded as distinct category data.

**Table 11.6: Kappa co-efficients for the rating of discursive dimension scores**

**Raters one and three**

<b>Time 1</b>	<b>Kappa</b>	<b>N</b>	<b>Time 2</b>	<b>Kappa</b>	<b>N</b>
Purposiveness	0.64	28	Purposiveness	0.55	27
Hedonism	0.73	28	Hedonism	0.74	27
Generalisability	0.51	28	Generalisability	0.38*	27
Time	0.46*	28	Time	0.32*	27
Addition	1.00	30	Addition	1.00	27
Contradictoriness	1.00	30	Contradictoriness	1.00	25

**Raters two and three**

<b>Time 1</b>	<b>Kappa</b>	<b>N</b>	<b>Time 2</b>	<b>Kappa</b>	<b>N</b>
Purposiveness	0.78	27	Purposiveness	0.75	17
Hedonism	0.77	27	Hedonism	0.65	18
Generalisability	0.58	27	Generalisability	0.52*	18
Time	0.73	27	Time	0.64	18
Addition	0.92	27	Addition	1.00	18
Contradictoriness	0.84	26	Contradictoriness	1.00	17

(all co-efficients statistically significant  $p = <.001$  except \*  $p = .01$ )

Of the 24 kappa co-efficients presented in table 11.6 thirteen are higher than 0.7. Rater two and rater three demonstrate a good measure of agreement

with no kappa co-efficients falling below 0.5. However, there are a small number of co-efficients from coding by rater one and rater three which are found to be somewhat less satisfactory.



## **Chapter 12**

### **Effects of agency contact according to the Discursive Model and Stages of Change**

The primary aim of chapter 12 is to examine the relationship between stage position in both the Stage of Change and Functional Discursive models, according to type of agency contact.

#### **Specific Hypothesis 1:**

States that:

(a) The *majority* of alcohol users **not in contact** with a treatment agency will be found in Stages of Change; precontemplation and contemplation. In addition this group of subjects will also be found at stages one, two and five of the Functional Discursive Model.

(b) Alcohol users **in contact** with each of the different treatment agencies will be found at the following stages of each model; subjects in contact with the Borders Council for Alcohol will be found at contemplation, action and maintenance, and at discursive stages two, three and four; subjects in contact with DART will be found at action and maintenance and discursive stages three and four; subjects in contact with AA will be found at action and maintenance, and discursive stage three.

In order to address these questions, the following are considered (i) distribution of subjects across types of agency, (ii) movement out of agency contact over time, (iii) agency contact and abstinence. Agency contact is also described.

Chapter 12 therefore divides into four sections:

**Section One:** Distribution and movement of subjects across agencies.

The relationship between agency contact and abstinence.

**Section Two:** The Functional Discursive Model and type of agency contact.

**Section Three:** The Stages of Change and type of agency contact.

**Section Four:** Correlational analysis: The relationship between stage in each model according to agency contact.

**Section Five:** Differences in the age of subjects according to agency contact.

## SECTION ONE:

### **Distribution of subjects across agency contact and movement over time**

Table 12.1 below illustrates the frequency distribution of subjects according to contact with a treatment agency. The number of subjects with no agency contact remains consistent over time. However, approximately 50% of subjects in agency contact at time 1 have moved out of contact by time 2 (i.e. at 6 month follow-up).

Table 12.1: Distribution of subjects across agency contact

	<u>Time 1</u> Count	%		<u>Time 2</u> Count	%
<u>No contact</u>	26	42.6	<u>No contact</u>	25	45.4
<u>In contact</u>	35	57.4	<u>Remained in</u>	15	27.2
	—		<u>Out of contact</u>	15	27.2
	61			—	
				55	

When cross-tabulated “type of agency contact” at time 1 and 2 (table 12.2) illustrates which agencies the 15 subjects who moved out of agency contact (during the 6 months) had previously been in contact with. Ten subjects were no longer in contact with the Borders Council for Alcohol (BCA), four subjects had been discharged from the Drug and Alcohol Resource Team (DART), and one subject left AA. One subject moved from contact with one agency to a different agency, i.e. from the BCA to AA.

There were no examples of subjects moving into agency contact during the 6- month period.



**Table 12.2: Cross-tabulation for type of agency contact at time 1 with type of agency contact at time 2**

		Agency contact at time 1				
		Non Agency	BCA	DART	AA	
Agency contact at time 2	Non Agency	25	10	4	1	40
	BCA		3			3
	DART			1		1
	AA		1		10	11
		25	14	5	11	55

**The relationship between agency contact and abstinence**

As discussed in previous chapters, abstinence is an importance feature in the treatment approach of certain agencies. This is illustrated by cross-tabulating type of agency with abstinence (table 12.3).

**Table 12.3: Cross-tabulation: Type of agency with abstinence at time 1**

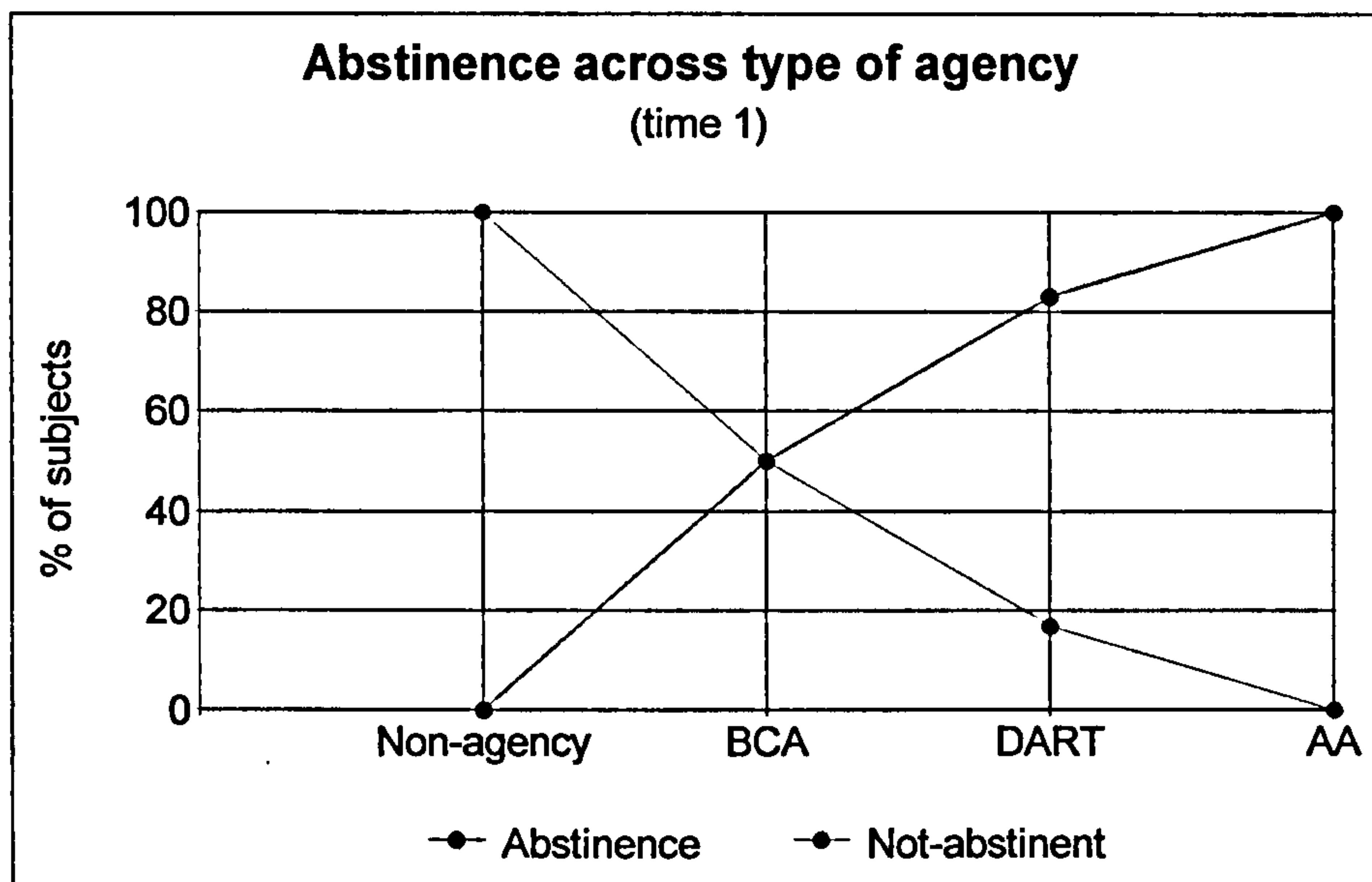
	Non agency (n=26)	BCA (n=18)	DART (n=6)	AA (n=11)
<u>Abstinent</u>	/	9 (50%)	5 (83%)	11 (100%)
<u>Not abstinent</u>	26 (100%)	9 (50%)	1 (17%)	/

**Cross-tabulation: Type of agency with abstinence at time 2**

	Non agency (n=25)	BCA (n=3)	DART (n=1)	AA (n=11)	Out of (n=15)
<u>Abstinent</u>	/	3 (100%)	/	11 (100%)	3 (20%)
<u>Not abstinent</u>	25 (100%)	/	1 (100%)	/	12 (80%)

(% in brackets = % of total subjects with each agency)

Figure 12.1:



Levels of abstinence, as the cross-tabulations and figure 12.1 reveal, vary according to which type of agency subjects are in contact with. Predictably, subjects in contact with AA are all abstinent, and abstinence does not feature at all in the subject group that had no agency contact.

In addition, a highly significant relationship between agency and abstinence was found using Chi Square analysis.

Table 12.4: Cross-tabulations of abstinence and agency contact

	Abstinent	Not abstinent	total
<b>TIME 1</b>			
No agency contact		26	26
In agency contact	25	10	35
<b>total</b>	25	36	61

Pearsons Chi-Square 31.468  
 df 1  
 Sig. <.000  
 Phi Value -.718  
 Sig. <.000

	Abstinent	Not abstinent	total
<b>TIME 2</b>			
No agency contact		25	25
Out agency contact	3	12	15
Remain in contact	14	1	15
<b>total</b>	17	38	55

Pearsons Chi-Square 39.391  
 df 2  
 Sig. <.000  
 Contingency Coefficient .646  
 Sig. <.000



Clearly as the cross-tabulations (table 12.4) demonstrate abstinence is closely associated with agency contact, with only subjects in agency contact found to be abstinent at time 1. In addition only 20% of subjects who moved out of agency contact at time 2 are found to be abstinent.

## SECTION TWO:

### **The Functional Discursive Model and agency contact**

This section examines the relationship between stage position in the Functional Discursive model according to agency and type of agency contact.

Chi-Square analysis was used to demonstrate a strong association between (i) agency contact and discursive stage position and (ii) agency contact with discursive dimension scores.

Table 12.5 below illustrates highly significant Chi-Square values.

Table 12.5: Chi-Square analysis of agency contact with discursive stage position and discursive dimensions, at time 1 and time 2

<b>Discursive Dimensions</b>	<b>N</b>	<b>Pearson Chi-Square value</b>
<b>Time 1</b>		
Discursive Stage	60	27.129*
Dis. Stage 1-3	44	20.272*
Dis. Stage 3-5	38	13.035**
Purposiveness	61	20.303*
Hedonism	61	22.181*
Generalisability	61	23.600*
Time	61	20.560*
Addiction	60	21.082*
Contradiction	60	0.463
<b>Time2</b>		
Discursive Stage	55	37.569*
Dis. Stage 1-3	38	25.775*
Dis. Stage 3-5	34	18.069**
Purposiveness	54	30.736*
Hedonism	55	42.412*
Generalisability	55	40.666*
Time	55	52.198*
Addiction	55	19.078*
Contradiction	54	8.386***

Asymp. Sig (2-sided)

\* = <.000

\*\* = <.005

\*\*\* = <.05

Table 12.5 illustrates a strong relationship between discursive stage position and discursive dimensions with agency contact at time 1 and time 2. The only dimension which does not demonstrate a strong relationship with agency contact is contradictoriness.

The crosstabulations from which the above Chi-Square values derive demonstrate an increase in the number of subjects in agency contact from discursive stage two to stage three, decreasing again at stage four. Only subjects not in agency contact occupy stages one and five.

For discursive dimensions; subjects in agency contact had lower hedonism, lower purposiveness, higher generalisability, time further in the past, more addiction and less contradictoriness, than subjects not in agency contact.

### **Type of agency contact**

The cross-tabulation for discursive stage by type of agency demonstrates a very clear relationship between position in the discursive model and agency contact (table 12.6). In effect, progression through the three agencies results in a reduction of the range of dialogue produced, for example BCA subjects are distributed across three stages, DART subjects across two and AA subjects only appear to produce stage three dialogue. This is interesting when one considers the different levels of involvement that occur as a consequence of which agency an individual is in contact with. Note also, non-agency subjects are distributed across all stages; although 50% are found at stages one and five; 26% at stage two; with the remainder at stages three and four.



**Table 12.6: Cross-tabulation for Discursive Stage by type of agency**

	Non-agency	BCA	DART	AA	
Stage 1	9				9
Stage 2	7	6			13
Stage 3	3	6	2	11	22
Stage 4	3	6	4		13
Stage 5	4				4
	26	18	6	11	

Table 12.7 below shows the mean scores for each of the discursive dimensions according to type of agency and non-agency groups. To a certain extent, the mean scores for each agency on the discursive dimensions are predictable from the previous cross-tabulation because it is these scores which determine stage position. However, it is useful to compare the mean dimension scores across different agencies and also with the non-agency group. This comparison confirms the assumptions made regarding the “seriousness” of the alcohol problem according to which agency an individual is in contact with.

**Table 12.7: Mean discursive dimension scores for each agency group**

	Non-agency		BCA	DART	AA	
	time 1	time 2	time 1	time 1	time 1	time 2
	n=26	n=40	n=18	n=6	n=11	n=11
Hedonism	2.69	1.97	3.50	4.33	5.00	5.00
Purposiveness	2.61	2.77	3.66	4.50	5.00	5.00
Generalisability	3.50	3.47	2.33	2.00	1.00	1.18
Time	2.42	2.52	3.44	3.83	4.81	4.90
Contradictoriness	1.50	1.48	1.61	1.66	1.00	1.00
Addiction	1.23	1.32	1.66	2.00	2.00	2.00

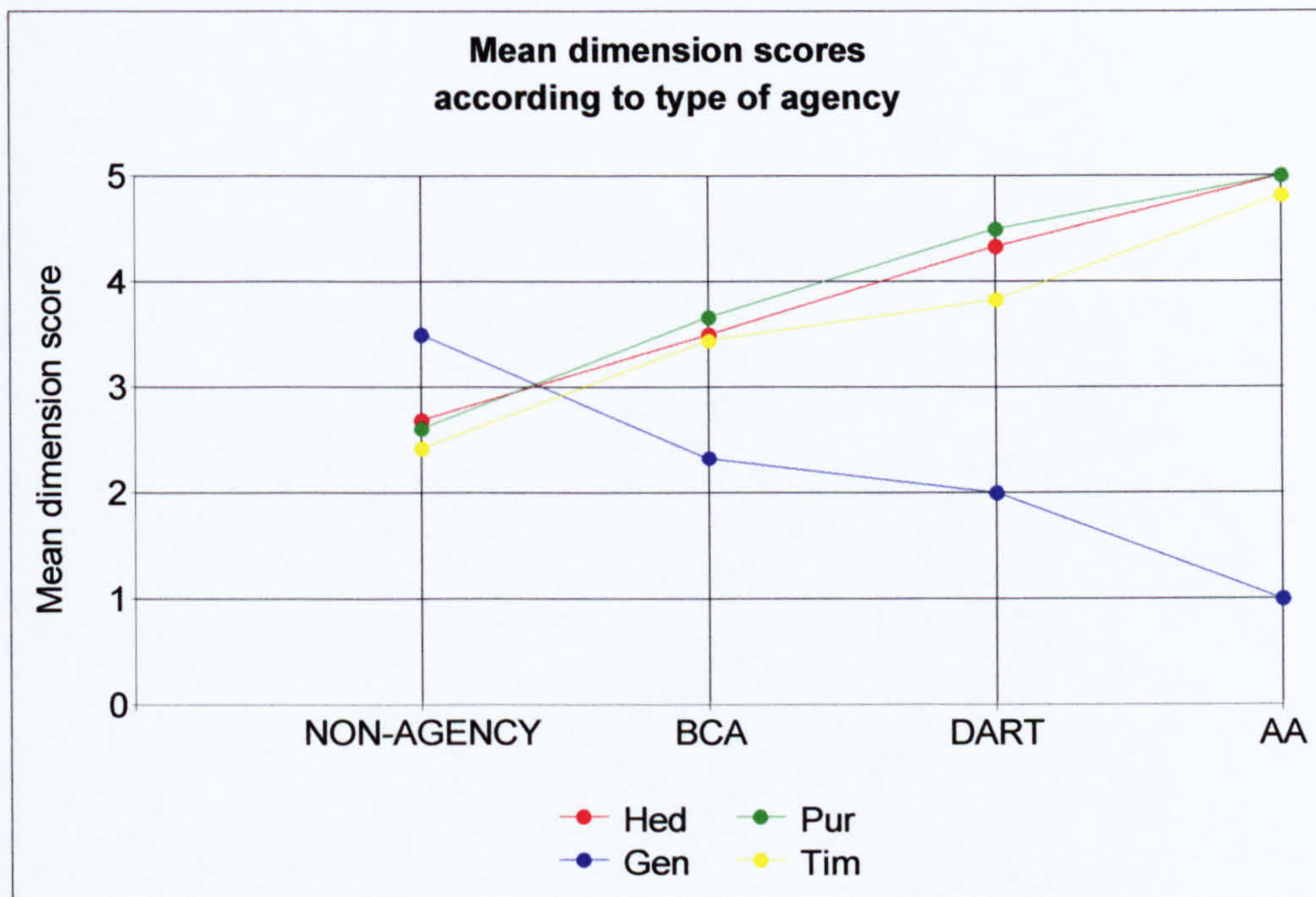
(The first four dimensions are measured on a scale of 1- 5; high=1 and low=5 for hedonism and purposiveness; low=1 and high=5 for generalisability; present=1 and past=5 for time. Addiction and contradictoriness were coded 1=absent and 2=present)



The means are not reported for BCA and DART subjects at time 2 since only four (6.5%) subjects from time 1 remained in contact with these two agencies. With the exception of mean hedonism scores for non-agency subjects, dimension scores for each group appear consistent over time.

The mean dimension scores presented in table 12.7 are plotted in figure 12.2 below, and clearly demonstrate a graduated trend across agencies. Mean scores for the non-agency subjects are the least “problematic”, becoming increasingly more problematic through successive agency groups, with dimension scores for the AA subjects indicating AA to be the group with the most serious alcohol problems, according to the discourse.

Figure 12.2:

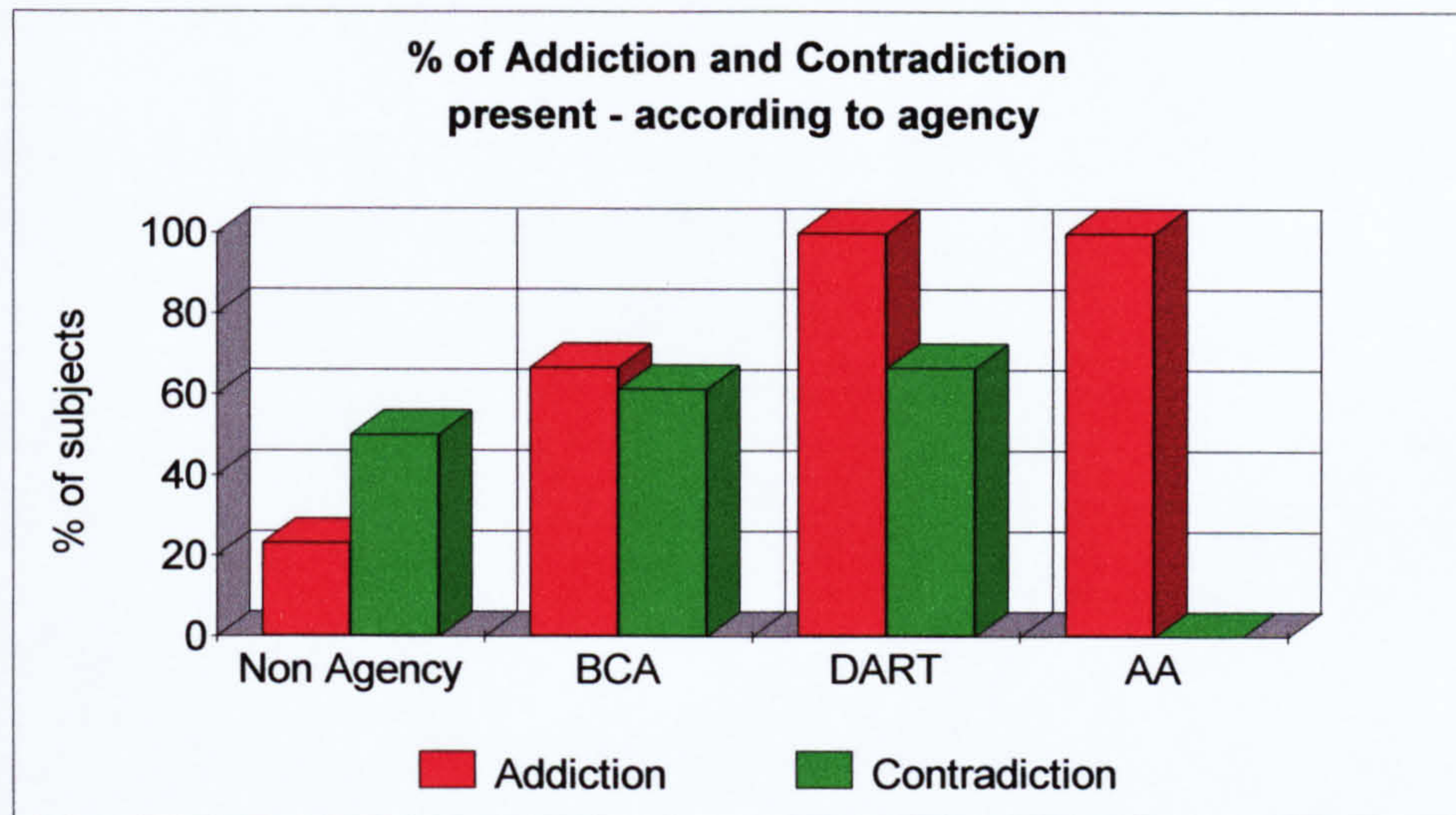


(Note: Dimensions hedonism and purposiveness are measured on the scale 1=high to 5=low, time is measured 1=present to 5=past, and generalisability is measured 1=low to 5=high)

The bar chart (figure 12.3 below) is especially interesting with regard to the addiction dimension. Self ascribed addiction clearly increases according to successive agency contact.



Figure 12.3:



**Discursive stage movement according to “in” or “out” of agency contact**

A cross-tabulation was computed for subjects with no agency contact (at either time 1 or time 2) to demonstrate discursive stage position/movement over six months for the non-treatment group.

Table 12.8: Cross-tabulation for Discursive Stage at time 1 by Discursive Stage at time 2 for subjects not in agency contact

		Discursive stage at time 1					
		1	2	3	4	5	
Discursive stage at time 2	1	6	1				7
	2	3	5				8
	3			1	1		2
	4			2	2	1	5
	5					3	3
		9	6	3	3	4	25



Subjects in agency contact at recruitment were cross-tabulated according to discursive stage at time 1 and time 2 (table 12.9 below).

Table 12.9: Cross-tabulation for Discursive Stage at time 1 by Discursive Stage at time 2 for subjects in agency contact

		Discursive stage at time 1					
		1	2	3	4	5	
Discursive stage at time 2	1		4				4
	2		2				2
	3			15			15
	4			4	3		7
	5				2		2
		0	6	19	5	0	30

The cross-tabulations (tables 12.8 and 12.9) demonstrate the broader distribution of non-agency subjects across discursive stages compared with the agency group. However, while there are no subjects at the “non-problematic” stages (one and five) at time 1 for the agency group, at time 2 four subjects have moved back to stage one from stage two, and two subjects have moved from stage four to five. The raw data revealed that the four subjects who moved back to stage one were BCA clients and of the two subjects who moved to stage five, one was a BCA client and the other a DART client. Of the 19 agency subjects who were at stage three at time 1, four subjects had moved to stage four at time 2. Therefore, a total of 10 subjects (33%) who were in agency contact at time 1, moved discursive stage position during a 6-month period.

In the non-agency group eight subjects (32%) moved discursive stage position, three subjects moved from stage one to stage two, one subject moved from stage two back to stage one, two subjects moved from stage three to four, one subject moved back to stage three from four, and one stage five subject moved back at stage four.



Note also that of the 10 agency subjects who moved stage position, all progressed to a “getting better” stage. Of the eight non-agency subjects who moved stage position, three moved to a “getting better” stage and five to a “worse” stage. Finally, whilst 50% of agency subjects at time 1 were not in agency contact at time 2, no subjects from the non-agency group moved into agency contact during the 6-month period.

### **SECTION THREE:**

#### **The Stages of Change and agency contact**

This section examines the relationship between Stages of Change according to agency and type of agency contact.

Chi-Square analysis was used to demonstrate a strong association between agency contact and URICA stage position.

Table 12.10 below illustrates highly significant Chi-Square values.

**Table 12.10: Chi-Square analysis of agency contact with URICA stage position**

		Time 1						
		No agency contact	In agency contact	total		Value	df	Asymp. Sig. (2-sided)
URICA stage	pre	6		6	Pearson Chi-Square	26.284	3	.000
	con	10	1	11	Likelihood Ratio	30.251	3	.000
	act	8	22	30	Linear-by-Linear Association	22.043	1	.000
	main	2	12	14	Contingency Coefficient	0.549		.000
Total		26	35	61	N of Valid Cases	61		

		Time 2							
		No agency contact	out of contact	Remained in contact	total		Value	df	Asymp. Sig. (2-sided)
URICA stage	pre	10	2		12	Pearson Chi-Square	12.559	6	.051
	con	2	2	1	5	Likelihood Ratio	15.039	6	.020
	act	10	7	7	24	Linear-by-Linear Association	11.152	1	.001
	main	3	4	7	14	Contingency Coefficient	0.431		.051
Total		25	15	15	55	N of Valid Cases	55		

Table 12.10 illustrates a strong relationship between URICA stage position and agency contact at time 1 and time 2. The crosstabulation from which the Chi-Square values derive demonstrate at time 1 an increase in the number of subjects in agency contact at URICA stages; action and maintenance. At time 2, the linear association between agency contact and URICA stage is less significant because of the addition of the “out of contact” column.

### Type of agency

The cross-tabulation for URICA stage by type of agency (table 12.11) demonstrates the spread of non-agency subjects across all URICA stages. With the exception of one questionable classification (the AA subject at



contemplation) subjects in contact with an agency are found to be at action and maintenance stages of the model.

**Table 12.11: Cross-tabulation for URICA stage by type of agency**

	<b>Non-agency</b>	<b>BCA</b>	<b>DART</b>	<b>AA</b>	
Pre	6				6
Con	10			1	11
Act	8	15	4	3	30
Main	2	3	2	7	14
	26	18	6	11	61

Table 12.12 below shows the mean score for each URICA stage according to type of agency and non-agency groups.

**Table 12.12: Mean scores for URICA stage according to agency group**

	<b>Non-agency</b>		<b>BCA</b>	<b>DART</b>	<b>AA</b>	
	time 1 n=26	time 2 n=40	time 1 n=18	time 1 n=6	time 1 n=11	time 2 n=11
Precontemplation	16.0	16.2	12.1	14.1	13.8	13.8
Contemplation	17.6	17.6	23.8	23.8	23.7	24.5
Action	16.7	19.2	25.6	27.6	26.3	25.8
Maintenance	15.6	16.3	22.4	22.8	24.5	24.2



Figure 12.4:

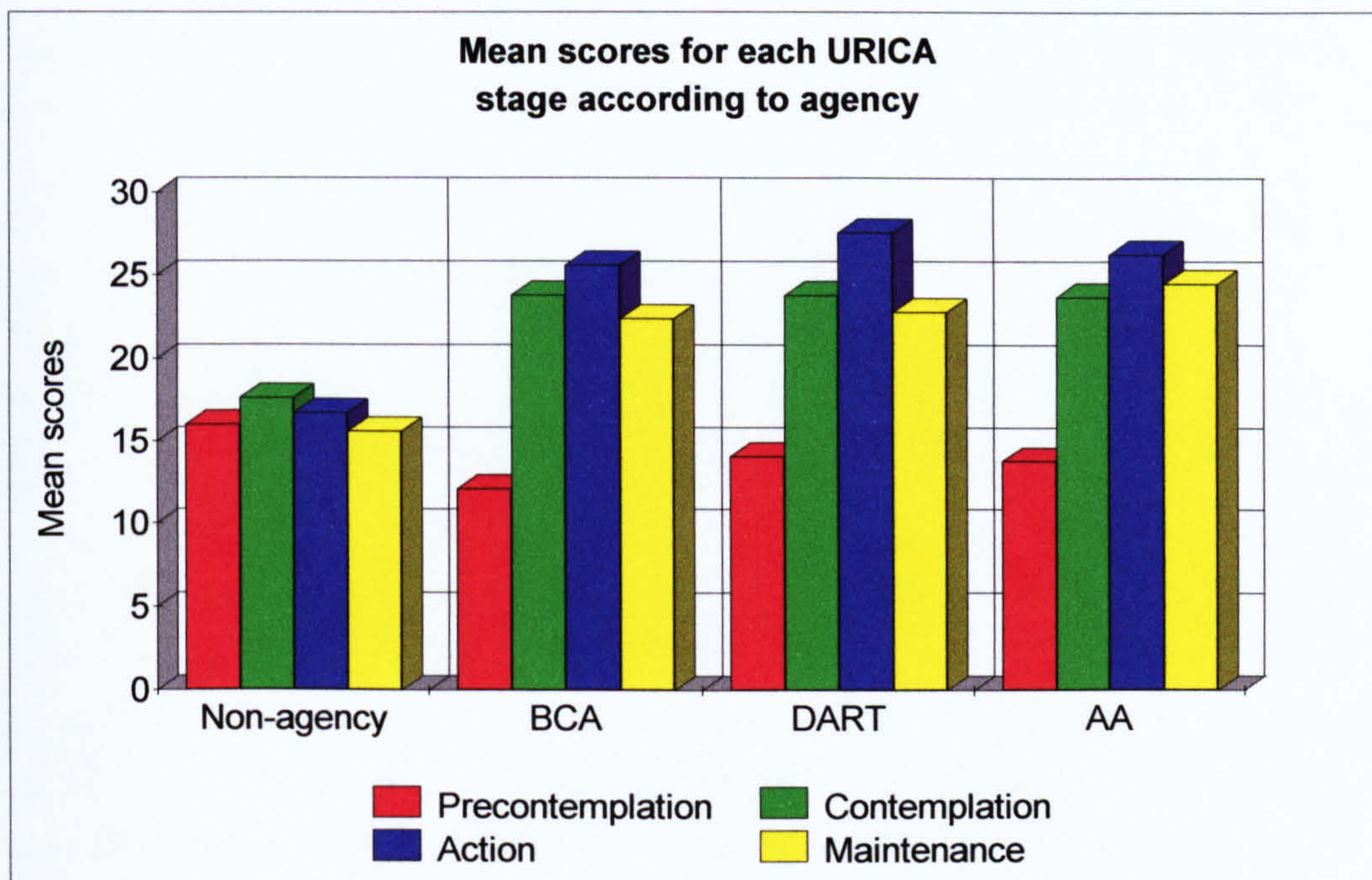


Table 12.12 and figure 12.4 (mean URICA stage scores according to agency), show action to be the most highly endorsed of the four stages by all three agency groups, as profiles of mean scores for each agency each demonstrate the highest scores for action; also similar across agency groups are low scores for precontemplation. The only difference between the agency groups in terms of the ascending order of stage scores, is found in the profile of scores for the AA group. The mean profile of stage scores for the AA group shows maintenance to be the second most highly endorsed stage, in contrast to the other two agency groups for whom contemplation is the second most highly endorsed stage. This is predictable considering the long-term involvement that membership of AA requires. Thus maintenance rather than contemplation will be more significant to AA subjects. Not surprisingly, across all agency groups precontemplation is the least endorsed stage. This is likely to be because by virtue of having made agency contact most subjects have moved beyond precontemplation, the primary characteristic of which is denial of the existence of a problem. The non-agency group demonstrates a more uniform profile of mean scores across URICA stages, which suggests that the non-agency subjects are a



more mixed group of alcohol users, including some subjects whose alcohol use may be causing them problems, but who are making attempts to change their behaviour without the help of a treatment agency. Contemplation is the most highly endorsed of the URICA stages for this group, and as one would expect, the lowest score is for maintenance.

#### **URICA stage movement according to “in” or “out” of agency contact.**

URICA stage position at time 1 and time 2 was cross-tabulated according to whether subjects were in contact with an agency at time 1, or had no agency contact over time 1 and time 2. It would appear an increased amount of movement is evident within the Stages of Change Model compared with the discursive model during the 6-month period.

The cross-tabulations below show for the non-agency group 13 subjects (52%) moved one or two URICA stages - eight moved backwards (i.e. “getting worse”) and five moved forwards (i.e. “getting better”). For the agency group 14 subjects (46%) moved URICA stage - eight backwards and six forwards. Therefore, while agency contact compared with non-agency contact appears to be associated with more subjects making some improvement, as measured by the discursive stage model, this is not the case when the URICA measurement is applied to the same subjects.

**Table 12.13: Cross-tabulation for URICA Stage at time 1 by URICA Stage at time 2 for subjects not in agency contact**

		URICA stage at time 1				
		Pre	Con	Act	Main	
URICA stage at time 2	Pre	5	5			10
	Con			2		2
	Act	1	2	6	1	10
	Main		2		1	3
		6	9	8	2	25

**Table 12.14: Cross-tabulation for URICA stage at time 1 by URICA stage at time 2 for subjects in agency contact**

		URICA stage at time 1				
		Pre	Con	Act	Main	
URICA stage at time 2	Pre			2		2
	Con			1	2	3
	Act		1	10	3	14
	Main			5	6	11
		0	1	18	11	30



## SECTION FOUR:

### **Correlational analysis examining the relationship between Discursive stage and URICA stage according to agency contact**

Correlation coefficients were computed to establish whether any relationship existed between (i) discursive stage position at time 1 and time 2 according to agency contact, (ii) URICA stage at time 1 and 2 according to agency contact, and (iii) between discursive and URICA stages at both time 1 and time 2 according to agency contact. Subjects were grouped according to non-agency or agency contact for both time 1 and time 2.

The results show very high coefficients for discursive stage position at time 1 with discursive stage position at time 2, across each of the four different subject groupings (i.e. according to form of agency contact). However, with the exception of one URICA stage correlation for the subject group who had no agency contact (URICA stage position at time 1 with URICA stage at time 2), there were no significant coefficients involving URICA stage position.

#### Table 12.15:

	<i>r</i> =
<b>Subjects with no agency contact at time 1 and time 2</b>	
Discursive stage at time 1 & Discursive stage at time 2 (n=25)	.925 p=<.000
URICA stage at time 1 & URICA stage at time 2 (n=25)	.580 p=.002
Discursive stage & URICA stage at time 1 (n=26)	.245 p=.226
Discursive stage & URICA stage at time 2 (n=25)	.068 p=.744
<b>Subjects in agency contact at time 1</b>	
Discursive stage at time 1 & Discursive stage at time 2 (n=30)	.895 p=<.000
URICA stage at time 1 & URICA stage at time 2 (n=30)	.195 p=.300
Discursive stage & URICA stage at time 1 (n=35)	.061 p=.728
Discursive stage & URICA stage at time 2 (n=30)	.032 p=.864
<b>Subjects who had moved out of agency contact at time 2</b>	
Discursive stage at time 1 & Discursive stage at time 2 (n=15)	.906 p=<.000
URICA stage at time 1 & URICA stage at time 2 (n=15)	.069 p=.805
Discursive stage & URICA stage at time 1 (n=15)	.082 p=.769
Discursive stage & URICA stage at time 2 (n=15)	.000 p= 1.00
<b>Subjects who remained in agency contact at time 2</b>	
Discursive stage at time 1 & Discursive stage at time 2 (n=15)	1.00 p=<.000
URICA stage at time 1 & URICA stage at time 2 (n=15)	.211 p=.449
Discursive stage & URICA stage at time 1 (n=15)	.230 p=.408
Discursive stage & URICA stage at time 2 (n=15)	.262 p= .345

The lack of any correlational relationship between URICA stage position at time 1 and stage position at time 2 is not too surprising when considering the

previous cross-tabulations, which have shown significantly more movement in URICA stage position between time 1 and time 2 than was found for the discursive model. This suggests that either the measurement of stage position by the URICA is inaccurate and lacks construct validity, because the relationship between stage position at time 1 and time 2 appears so tenuous, or alternatively the URICA is a highly sensitive measurement instrument because changes in behaviour and attitude over a 6-month period of time appear as significant changes in stage position.

The opposite observation could also be made of the significant association between discursive stage position at time 1 and time 2, i.e. that if the model reports minimal movement across time, this could indicate a lack of discrimination in its measurement.

It is therefore not surprising that correlation co-efficients for discursive stage with URICA stage are very low, if stage position for one model changed far less between time 1 and time 2 than position on the other model. This will confound attempts to demonstrate an association between stage position for each model.

## SECTION FIVE:

### **Age differences according to type of agency contact**

Table 12.16 below shows the mean age of subjects according to type of agency contact. Non-agency subjects are, on average, younger than subjects in agency contact.

Table 12.16: Mean age of subjects according to agency group

	<b>Non-Agency</b>		<b>BCA</b>		<b>DART</b>		<b>AA</b>	
	time 1	time 2	time 1	time 2	time 1	time 2	time 1	time2
<b>N=</b>	26	40	18	3	6	1	11	11
<b>Mean age (yrs)</b>	33.5	38.9	46.2	47	51	42	48.5	48.3
<b>SD</b>	8.8	13.1	11.2	9.5	20	0	11	11.1



**Table 12.17: Oneway ANOVA to demonstrate differences in age according to type of agency contact**

**ANOVA**

AGE

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3134.389	3	1044.796	8.113	.000
Within Groups	7340.300	57	128.777		
Total	10474.689	60			

**Multiple Comparisons**

Dependent Variable: AGE

Scheffe

(I) type of agency	(J) type of agency	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Non Agency	BCA	-12.6838*	3.480	.007	-22.7078	-2.6597
	DART	-17.4615*	5.140	.014	-32.2681	-2.6550
	AA	-15.0070*	4.082	.007	-26.7657	-3.2483
BCA	Non Agency	12.6838*	3.480	.007	2.6597	22.7078
	DART	-4.7778	5.350	.850	-20.1889	10.6333
	AA	-2.3232	4.343	.962	-14.8347	10.1882
DART	Non Agency	17.4615*	5.140	.014	2.6550	32.2681
	BCA	4.7778	5.350	.850	-10.6333	20.1889
	AA	2.4545	5.759	.980	-14.1372	19.0463
AA	Non Agency	15.0070*	4.082	.007	3.2483	26.7657
	BCA	2.3232	4.343	.962	-10.1882	14.8347
	DART	-2.4545	5.759	.980	-19.0463	14.1372

\*. The mean difference is significant at the .05 level.

The analysis reported in table 12.17 could not be repeated for time 2 data as subject numbers for the BCA and DART had dropped too low. However instead, t-test analysis between non-agency and AA groups (time 2) also showed a significant difference in age ( $t=2.17$   $df=49$   $p=.035$ ).

The movement of a large proportion of DART and BCA subjects out of agency contact at time 2 into the non-agency group increased the mean age of the non-agency group and hence reduced the difference found at time 1 between means for the non-agency with agency groups - see table 12.16. This result does not contradict the previous finding from the time 1 data, i.e. that mean age of agency subjects is significantly greater than subjects not in agency contact, because the time 1 non-agency sample was made up (with few exceptions) of subjects who had never had agency contact. Conversely,

the time 2 non-agency sample contained a mixture of subjects some of whom had never had agency contact and some ex-agency subjects. Therefore, the results in table 12.17 show that a significant difference in mean age exists between subjects without agency contact and those in agency contact. However, there are no significant differences in mean age across the three different agencies.



## **Chapter 13**

### **AUDIT scores across the Functional Discursive Model and Stages of Change**

The AUDIT score is a measure of problematic alcohol use which covers not only the quantity and frequency of alcohol consumption, but also dependence symptoms and other adverse consequences of excessive alcohol use. The higher the AUDIT score the more problematic an individual's alcohol use is considered to be.

The aim of chapter 13 is to examine the relationship between stage position; for both the Stage of Change and Functional Discursive models, and the scores derived from the AUDIT questionnaire.

In addition, correlational analysis examines the relationship between AUDIT scores and variables such as (i) abstinence (ii) discursive dimension scores (iii) URICA stage scores and (iv) agency contact.

#### **Specific Hypothesis 2 -**

States that a measure of problematic alcohol use (AUDIT) will reveal:

(a) levels of problematic alcohol use that successively rise through the Functional Discursive Model at stages one, two and three. This will be followed by descending levels of problematic use through discursive stages four and five.

(b) a relatively high level of problematic alcohol use at Stages of Change; precontemplation increasing further at contemplation. This will be followed by a reduction in the level of problematic use at stages action and maintenance.

In order to address these questions chapter 13 divides into three sections:

Section One: AUDIT scores across the Functional Discursive Model.

Section Two: AUDIT scores across the Stages of Change.

Section Three: The correlational analysis of AUDIT scores with other problem-related variables.

## SECTION ONE:

### **AUDIT scores across the Functional Discursive Model**

Mean AUDIT scores were computed for all subjects at each discursive stage for time 1 and time 2. As shown in table 13.1 below; AUDIT scores increase from stage one to stage two, decrease at stage three and then increase again at stage four; at stage five AUDIT scores appear to have returned to similar levels as stage one.

Table 13.1: Mean AUDIT scores at each discursive stage

		<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage 3</b>	<b>Stage 4</b>	<b>Stage 5</b>
AUDIT score		17.44	20.15	13.45	16.54	18.75
	(SD)	(3.35) n=9	(7.22) n=13	(13.45) n=22	(10.32) n=13	(7.41) n=4
AUDIT score		14.09	18.40	7.88	18.50	11.00
time 2	(SD)	(5.08) n=11	(8.98) n=10	(9.25) n=17	(8.86) n=12	(3.53) n=5

One questionable score in table 13.1 is the mean AUDIT score for discursive stage four at time 2. This score appears to be excessively high relative to the general pattern within each set of scores. This could be explained by assuming the subjects who made the greatest contribution to the high AUDIT score at stage four (time 2), were the same subjects that contribute to the higher stage three score at time 1 compared with the stage three score at time 2.

This is confirmed by the cross-tabulation for discursive stage time 1 by discursive stage time 2 (Chapter 15), a cross-tabulation which demonstrates the largest single group of subjects to move stage position from time 1 to time 2, to be those subjects who moved from stage three to stage four.

While the progression from stage three to stage four is regarded as an indication of "improvement", because the AUDIT measures more than current consumption it does not necessarily follow that AUDIT scores will automatically reflect an improvement at the same point in time.



There is, however, one strikingly obvious discrepancy within this pattern of scores. If discursive stage three is considered the stage at which an individual's problem substance use is at its most problematic, then why does stage three demonstrate lower AUDIT scores than the other discursive stages? This contradiction is explained by examining how different agency groups are distributed across discursive stages. These data are explored in Chapter 12. As a result of cross-tabulating type of agency with discursive stage it is shown that all subjects who were members of Alcoholics Anonymous were at discursive stage three.

What distinguishes AA subjects from other agency groups is that whilst they are not the only subjects to subscribe to the "helpless addict" stereotype, they differ in attributing their condition to what they believe to be an incurable illness, and as such aim to remain abstinent indefinitely. This means for as long as this group of individuals adhere to the philosophy of AA their discourse will not change and will thus remain fixed at stage three.

At time 1, 50% of stage three subjects were AA members and time 2 saw this figure rise to 58.8%. Because this proportion of stage three subjects were therefore abstinent this explains the lowered AUDIT scores.

Table 13.2 shows mean AUDIT scores at each discursive stage when all AA subjects are excluded, revealing a 38% and 56% increase (at time 1 and time 2 respectively) for AUDIT scores at stage three.

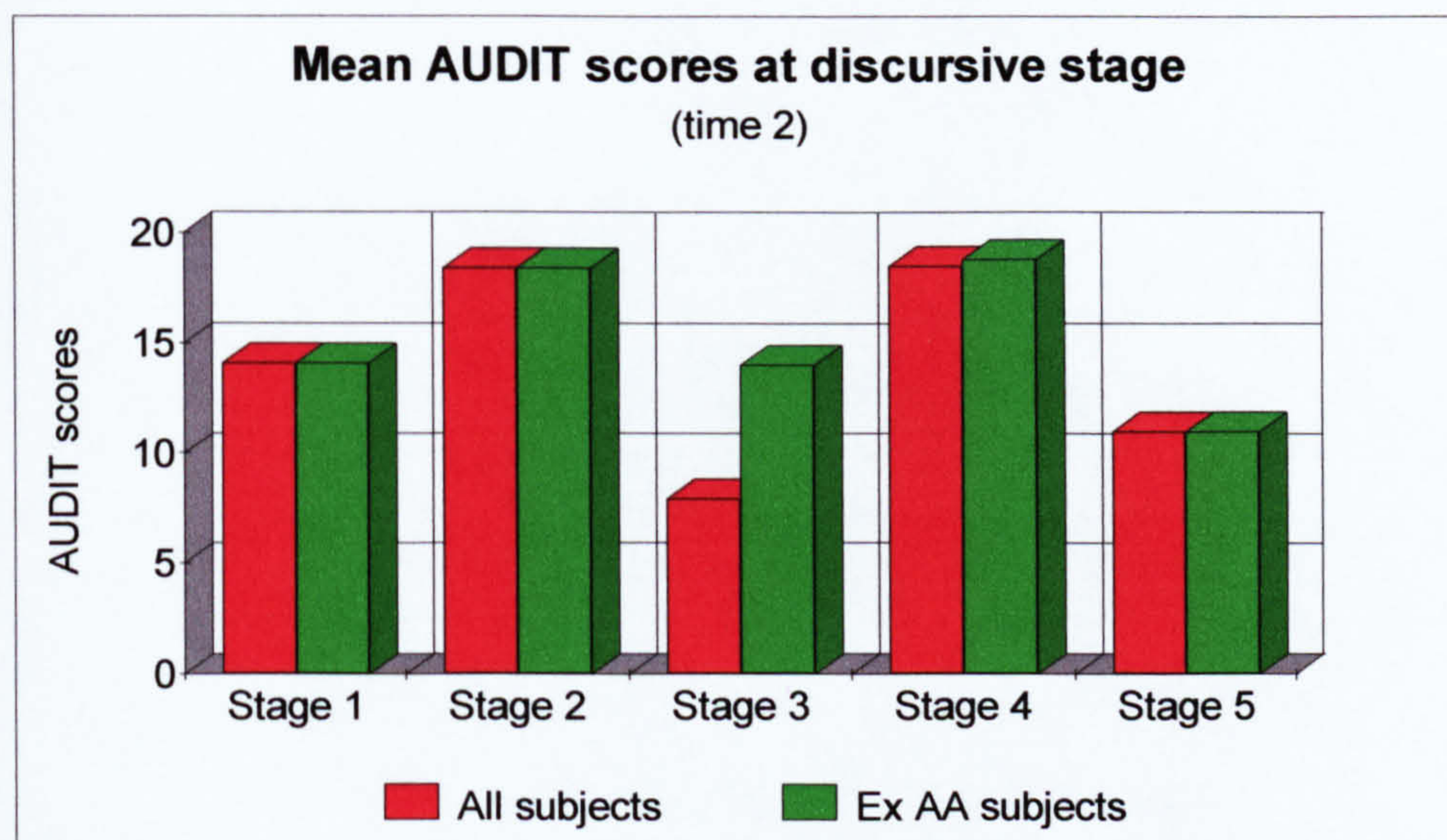
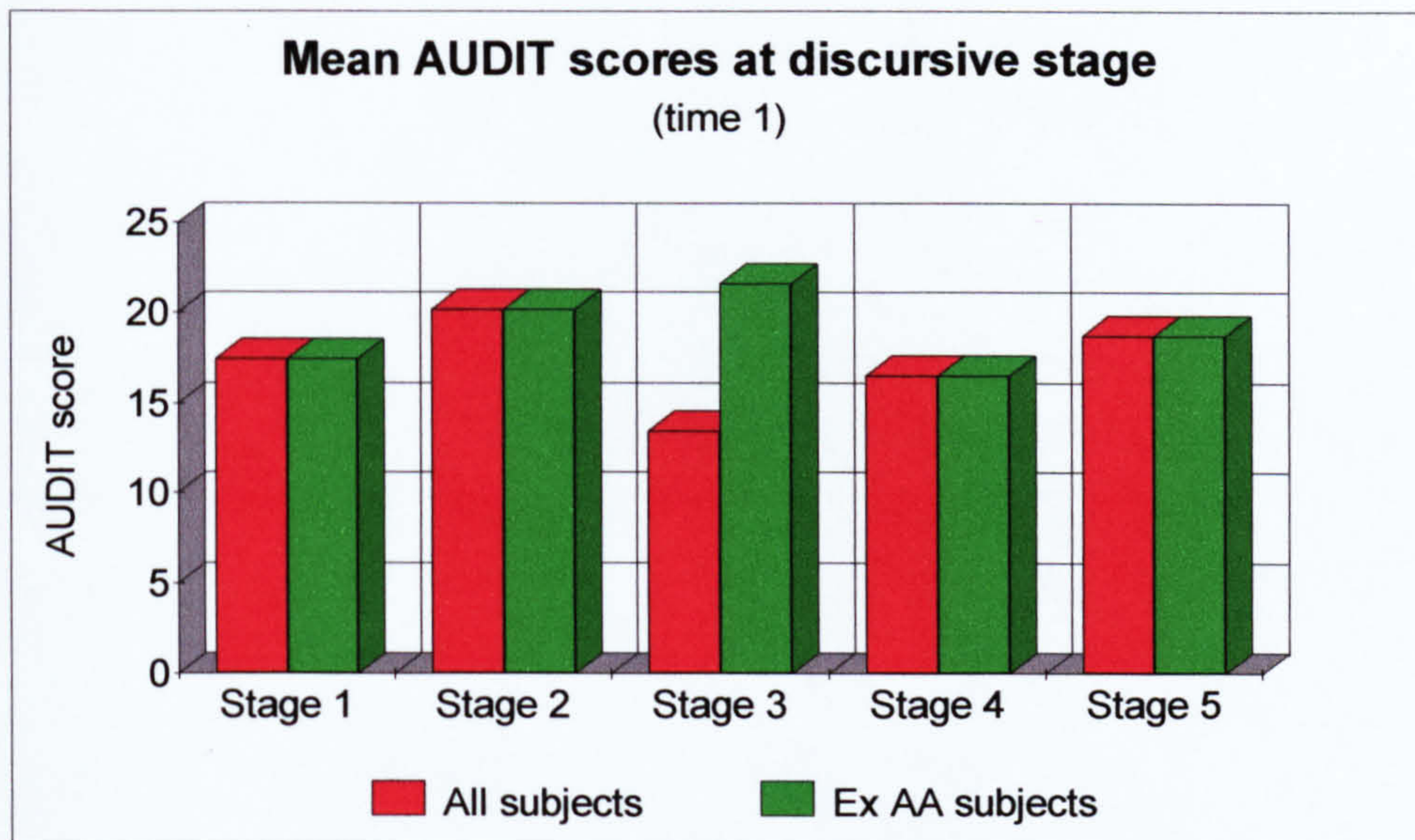
Table 13.2: Mean AUDIT scores at each discursive stage excluding AA subjects

		Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
AUDIT score ex AA		17.44	20.15	21.63	16.54	18.75
time1	(SD)	(3.35) n=9	(7.22) n=13	(13.89) n=11	(10.32) n=13	(7.41) n=4
AUDIT score ex AA		14.09	18.40	14.00	18.50	11.00
time 2	(SD)	(5.08) n=11	(8.98) n=10	(13.31) n=7	(8.86) n=11	(3.53) n=5

Figure 13.1 below illustrates graphically data from tables 13.1 and 13.2.



Figure 13.1



### **AUDIT scores across discursive stage according to abstinence**

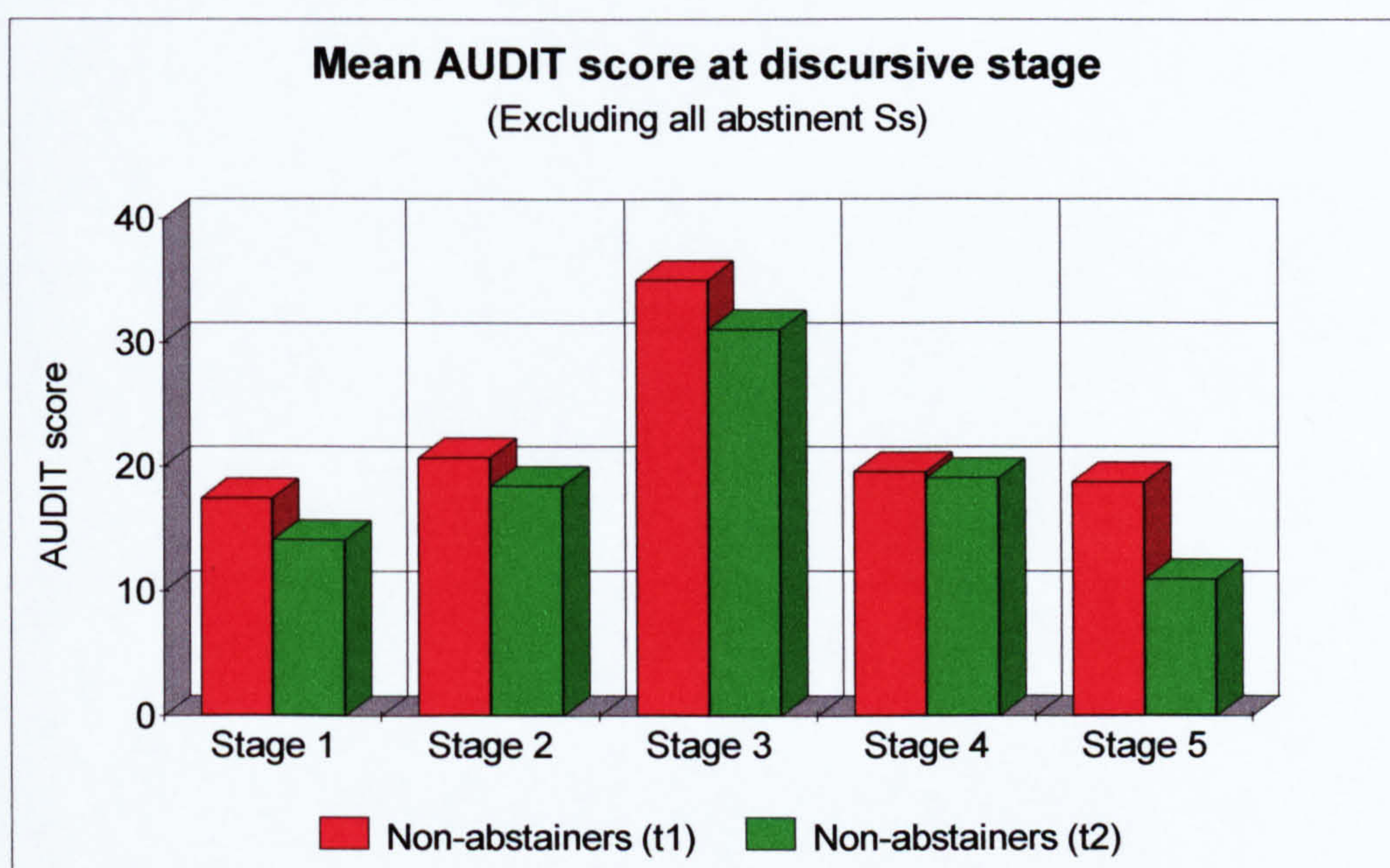
Because the exclusion of AA subjects affected the pattern of AUDIT scores across discursive stage position, it seemed logical to pursue this line of enquiry a step further by excluding all subjects who were abstinent.



**Table 13.3: Mean AUDIT scores at each discursive stage, excluding all abstinent subjects**

		Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
AUDIT score		17.44	20.72	35.00	19.62	18.75
	(SD)	(3.35)	(7.64)	(2.44)	(8.27)	(7.41)
		n=9	n=11	n=4	n=8	n=4
AUDIT score		14.09	18.40	31.00	19.10	11.00
time 2	(SD)	(5.08)	(8.98)	(0.00)	(9.67)	(3.53)
		n=11	n=10	n=2	n=10	n=5

**Figure 13.2: Data from table 13.3**



This section has reported differing patterns of AUDIT scores across discursive stage position, according to different subject groupings (i) all subjects (ii) all subjects excluding AA subjects (iii) all non abstinent subjects. These differences in mean AUDIT scores (primarily at stage three) are shown to be the result of the low scores produced by abstinent subjects. To use the AUDIT as a measure of current problematic alcohol use with abstinent subjects frequently results in examples of subjects who fail to produce a representative AUDIT score. This is because an individual who abstains from alcohol use as a result of the problems it is causing them, will



produce a lower AUDIT score (owing to non-consumption) which in effect (falsely) denotes less problematic use. It is important to note at this point that the AUDIT was designed as a screening instrument for use with *current* alcohol drinkers. These results offer support for the use of the AUDIT with current drinkers, and highlight its unsuitability for use with abstainers.

The reason for the difference in pattern of AUDIT scores shown in figure 13.2 above compared with figure 13.1, is explained by the presence of other abstinent subjects in addition to AA subjects, across the stages. For example some of the abstinent subjects are found at discursive stage four, (although the majority still appear at stage three). This finding justifies the exclusion of AUDIT scores produced by the abstinent subjects, when the aim is to give a clear picture of the levels of problematic alcohol use across different stages. As is clearly illustrated in figure 13.4 above, the pattern of AUDIT scores across discursive stage clearly conforms to expectation (see specific hypothesis 2).

The revised trend of AUDIT scores across discursive stage (based on only the subjects who were currently drinking), mirrors the “getting worse” then “getting better” progression through the Discursive Model discussed previously. This pattern of scores was consistent over time 1 and time 2.

## **SECTION TWO:**

### **AUDIT scores across the Stages of Change**

Section two examines AUDIT scores across the Stages of Change. Mean AUDIT scores were first computed for all subjects at each URICA stage for time 1 and time 2 (table 13.4). Next, in keeping with section one previously, AUDIT scores were computed for each stage excluding all AA subjects (table 13.4).



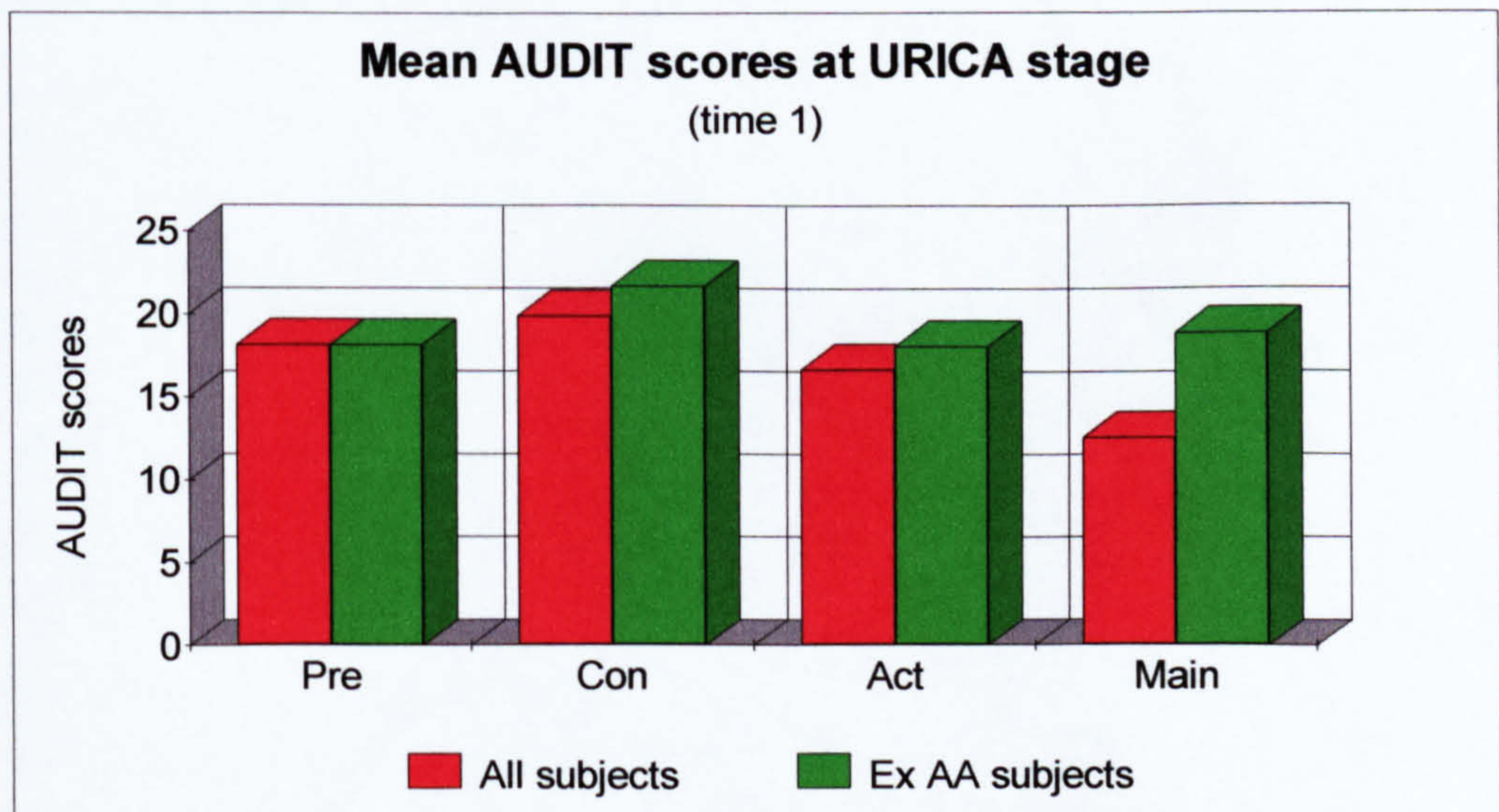
**Table 13.4: Mean AUDIT scores at each URICA stage**

		Precont- emplation	Contemp- lation	Action	Mainten- ance
AUDIT score		18.17	19.91	16.70	12.57
time 1	(SD)	(6.11) n=6	(9.18) n=11	(10.45) n=30	(11.11) n=14
AUDIT score		16.00	17.20	11.54	13.92
time 2	(SD)	(9.55) n=12	(11.45) n=5	(7.87) n=24	(9.55) n=14

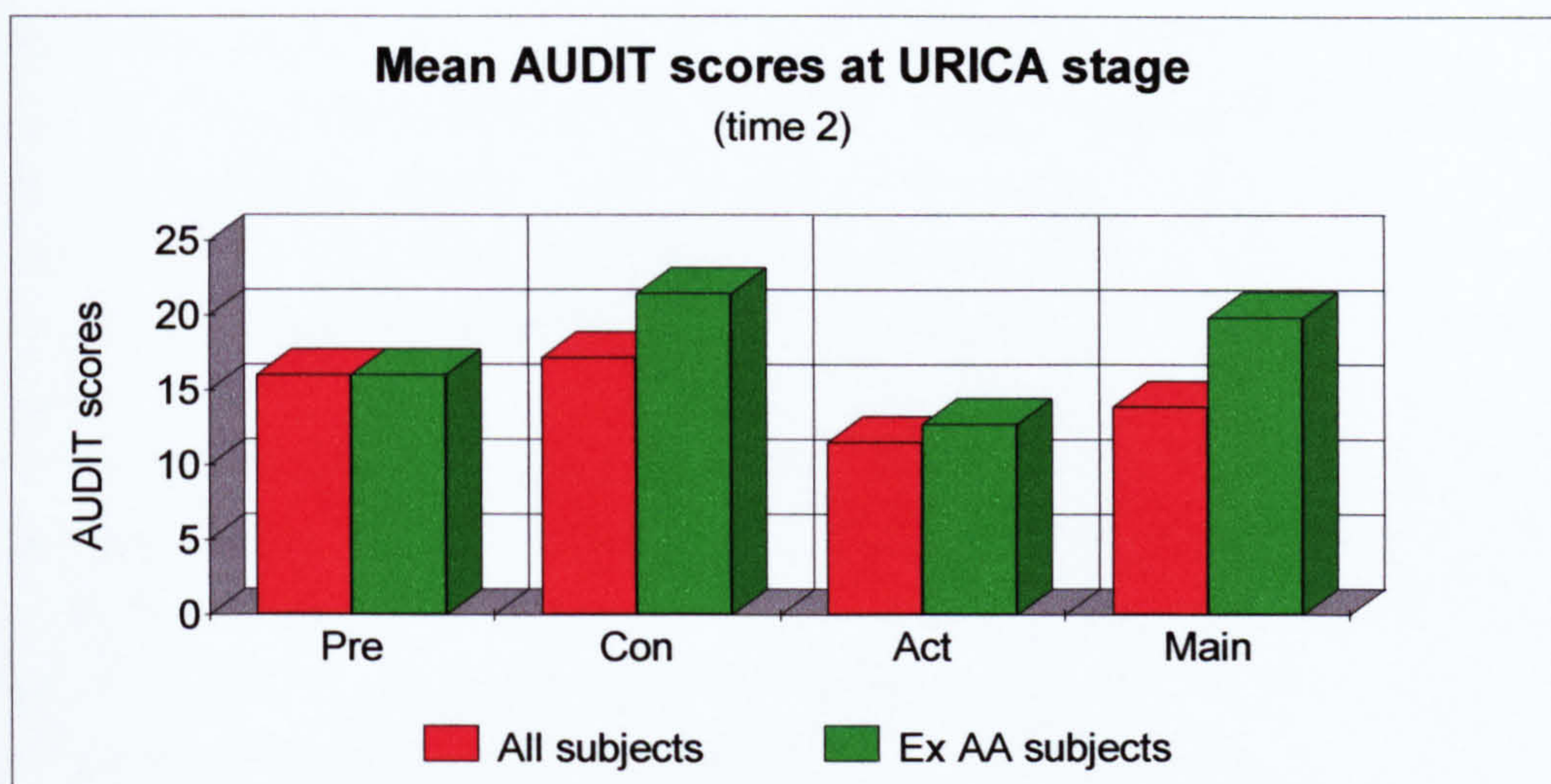
**Table 13.5: Mean AUDIT scores at each URICA stage excluding AA subjects**

		Precont- emplation	Contemp- lation	Action	Mainten- ance
AUDIT score		18.17	21.70	18.11	18.85
ex AA	(SD)	(6.11) n=6	(7.37) n=10	(10.00) n=27	(12.29) n=7
AUDIT score		16.00	21.50	12.73	19.88
ex AA	(SD)	(9.55) n=6	(7.37) n=4	(7.98) n=19	(5.95) n=9

**Figure 13.3: Data from table 13.3 and 13.4**







For the Stages of Change Model, differences in mean AUDIT scores when AA subjects are excluded are found across all URICA stages, with the exception of precontemplation. Therefore, as is confirmed by observing the reduction in subjects numbers in each stage across tables 13.3 and table 13.4, AA subjects occupy contemplation, action and maintenance, although the majority appear to be maintainers.

Consistent over time, with or without AA subjects is the increase in mean AUDIT score from precontemplation to contemplation, followed by the decrease from contemplation to action.

The significant decrease in mean AUDIT scores from contemplation to action stages supports the process of a behavioural change across these two stages, as measured by the URICA.

The authors of the Transtheoretical approach claim: “Action tends to be the briefest stage of change with specific problem behaviours and yet the stage in which the most overt progress is made.....but as such enthusiasm for action can only last for some limited period of time.” (Prochaska and DiClemente 1984, p.28).

However, between action and maintenance stages the consistent pattern of AUDIT scores breaks down. For example table 13.4 shows the mean AUDIT score for subjects at maintenance (time 1) to be lower than the action score, with the pattern in other examples (table 13.4 time 2 and table 13.5) showing an increased AUDIT score at maintenance. This could be partly attributed to



the difference in distribution of AA subjects across URICA stages between time 1 and time 2.

Also, as the cross-tabulation in Chapter 15 demonstrates, movement of subjects between action and maintenance stages was found in both directions, i.e. from time 1 to time 2, five subjects moved from action to maintenance and four subjects moved from maintenance back into the action stage.

As already mentioned, stage movement will not always be synonymous with a reduction or increase in AUDIT score, this means that a subject could have moved to a different stage at 6-month follow-up without a corresponding change in AUDIT score taking place, because the AUDIT measures more than current alcohol consumption. Equally, however, AUDIT scores can change across time 1 and time 2 without a shift in stage position, for example, a subject at a particular stage may adopt abstinence and thus their AUDIT score will change significantly in a short period of time.

#### **AUDIT scores across Stage of Change according to abstinence**

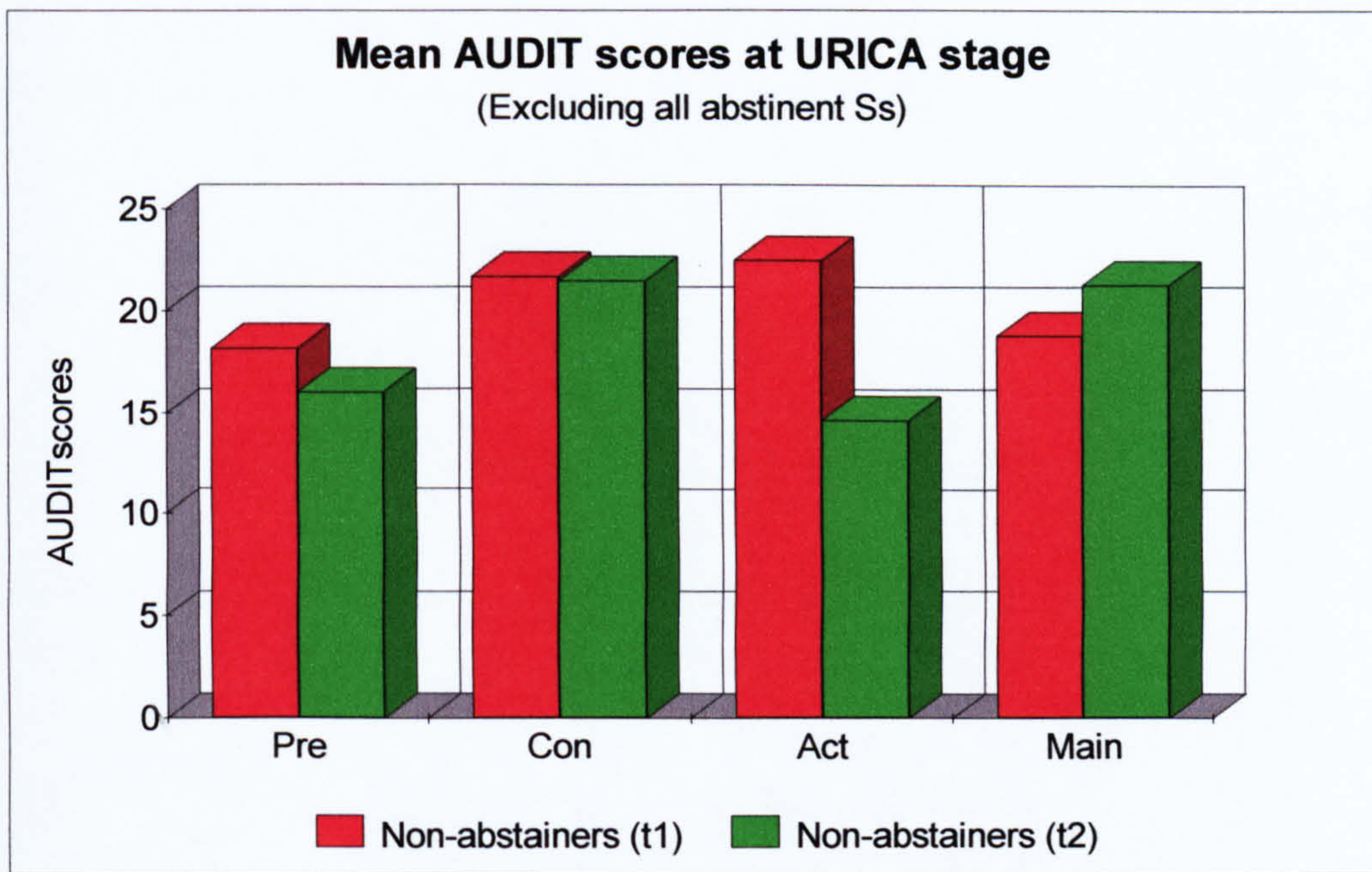
Mean AUDIT scores were examined again, this time all abstinent subjects were excluded.

Table 13.6: Mean AUDIT scores at each URICA stage, excluding all abstinent subjects

		<b>Precont- emplation</b>	<b>Contemp- lation</b>	<b>Action</b>	<b>Mainten- ance</b>
AUDIT score		18.17	21.70	22.46	18.80
time 1	(SD)	(6.11) n=6	(7.37) n=10	(8.08) n=15	(11.92) n=5
AUDIT score		16.00	21.50	14.66	21.28
time 2	(SD)	(9.55) n=12	(7.19) n=4	(8.11) n=15	(6.10) n=7



Figure 13.4: Data from table 13.6



Similar to the findings in section one, if all abstinent subjects are removed from the analysis, the pattern of AUDIT scores differs from that previously observed when (i) mean AUDIT scores were computed for all subjects, and (ii) when mean AUDIT scores were computed for all subjects excluding AA subjects.

The pattern of AUDIT scores across the URICA stages is less clear because mean scores are not consistent across time 1 and time 2. What does seem apparent by comparing AUDIT scores at each stage across the two models, is the increased differentiation in AUDIT scores between different discursive stages, in contrast to AUDIT scores for URICA stages.

Also of interest is the distribution of abstinent subjects across the stages of each model. Predictably, there are no abstinent subjects at discursive stages one and five and URICA stage precontemplation. Taking an average across time 1 and time 2, 4.7% of the totally abstinent subjects were found at discursive stage two, 78.5% at discursive stage three and 16.6% at stage four. For the URICA stages the abstinent subjects were distributed as follows, 4.7% at contemplation (same as discursive stage two), 57.1% at action and 38.0% at maintenance. These data clearly show discursive stage three to be the stage at which subjects have the highest AUDIT scores if they are not abstinent and also the stage at which abstinence features considerably more than any other. As before, the picture is less clear for



URICA stages; action contains more abstinent subjects than maintenance but the different patterns of scores between time 1 and time 2 make it difficult to determine where higher AUDIT scores lie.

### SECTION THREE:

#### **Correlational analysis: AUDIT scores and abstinence**

Correlational analyses were computed for AUDIT scores with discursive and URICA variables. Subjects were divided into two groups according to whether they were abstinent or not abstinent. Audit scores for each group ranged as follows:

Table 13.7: Range of AUDIT scores according to abstinent or not

Time	Group	Range of scores	Mean AUDIT score
Time 1	Abstinent (n=25)	0-32	9.92 (SD: 9.30)
	Not abstinent (n=36)	2-38	21.02 (SD: 8.05)
Time 2	Abstinent (n=17)	1-16	6.05 (SD: 4.74)
	Not abstinent (38)	3-36	17.02 (SD: 8.39)

Correlational analyses most commonly employed to examine the relationship between two variables generally assume a linear relationship based upon each variable having been coded on a continuous or interval scale. Because the correlation of abstinence and AUDIT scores does not meet this criterion, the Point Biserial Coefficient of Correlation ( $r_{pb}$ ) Edwards 1963, was selected as the most appropriate means of correlating a dichotomous variable (abstinence - coded as either "yes" or "no") with one measured on an interval scale (AUDIT score).

Abstinence and AUDIT scores (time 1) :  $r_{pb} = .524$  (n= 61)  $p = <.01$

Abstinence and AUDIT scores (time 2) :  $r_{pb} = .578$  (n= 55)  $p = <.01$

As expected, highly significant positive correlations confirmed lower AUDIT scores to be associated with abstinence. (See appendix for calculations.)

## Correlational analysis: AUDIT scores with discursive dimension scores and URICA stage scores

AUDIT scores were correlated with discursive stage dimension scores and URICA stage scores, to determine which of these variables (if any) demonstrate a relationship with AUDIT scores.

Table 13.8: Pearson correlation co-efficients for AUDIT scores with discursive dimensions and URICA stage scores - non abstinent subjects

	AUDIT time1 (n=36)	AUDIT time 2 (n=38)		AUDIT time1 (n=36)	AUDIT time 2 (n=38)
Hedonism	.427 p=.009	.302 p=.065	Precontemplation	.001 p=.995	-.080 p=.631
Purposiveness	.526 p=.001	.575 p<.000	Contemplation	.152 p=.374	.147 p=.376
Generalisability	-.455 p=.005	-.267 p=.105	Action	-.028 p=.870	-.068 p=.684
Time	.267 p=.115	-.031 p=.851	Maintenance	.115 p=.502	.303 p=.064

For the non-abstinent subjects there appears a strong correlation between the AUDIT and three discursive dimensions hedonism, purposiveness and generalisability. The positive direction of the hedonism and purposiveness correlations indicates as AUDIT scores increase (i.e. more problematic use) hedonism and purposiveness decrease. Time shows no significant relationship. Generalisability reveals a negative correlation which indicates that higher generalisability is associated with higher AUDIT scores.

With the exception of maintenance at time 2, correlation coefficients for the AUDIT with URICA stage scores were too low to warrant consideration.

The correlational analyses were repeated for the group of abstinent subjects (again for time 1 and time 2) because subjects who are not currently using alcohol still attain an AUDIT score. Abstinent subjects can potentially produce an AUDIT score as high as non-abstinent subjects, for two reasons: (i) the AUDIT measures more than current alcohol consumption and (ii) it has a retrospective element which concerns former behaviours. However, as is noted above (table 13.7), the mean AUDIT score for abstinent subjects is less than half the mean score for non-abstinent subjects.



**Table 13.9: Pearson correlation coefficients for AUDIT scores with discursive dimensions and URICA stage scores - abstinent subjects**

	AUDIT time1 (n=25)	AUDIT time 2 (n=17)		AUDIT time1 (n=25)	AUDIT time 2 (n=17)
Hedonism	-.114 p=.586	.220 p=.396	Precontemplation	-.179 p=.391	-.028 p=.913
Purposiveness	-.039 p=.850	-.719 p=.002	Contemplation	.369 p=.069	-.064 p=.805
Generalisability	.098 p=.641	.689 p=.002	Action	.267 p=.196	.154 p=.555
Time	-.466 p=.019	-.780 p=<.000	Maintenance	.298 p=.147	.205 p=.429

Differences in the size of coefficients and the direction of correlations, were found between the two groups (abstinent and non-abstinent).

Many of the correlation coefficients noted in table 13.8 for non-abstinent subjects which were statistically significant, when repeated for abstinent subjects showed no association (table 13.9).

The correlations for generalisability and purposiveness change direction according to abstinence, from negative to positive, the positive correlation for generalisability demonstrating low AUDIT scores to be associated with high generalisability for abstinent subjects.

Another difference between the two groups of subjects lies with the purposiveness and AUDIT correlation. For non-abstinent subjects low purposiveness is significantly associated with higher AUDIT scores, conversely for the abstinent subjects low purposiveness is associated with lower AUDIT scores.

Finally, comparisons between co-efficients at time 1 and time 2 in table 13.9 reveal a notable difference in size according to time (i.e. at time 2 coefficients are much higher). The reason for this appears to lie with the frequency distribution of AUDIT scores produced by abstainers, according to time. Looking back to table 13.7 comparisons between time 1 and time 2 show the range of AUDIT scores for abstinent subjects at time 1 to be far greater than abstinent subjects at time 2. When the distribution of scores are plotted on a graph, the frequency distribution of AUDIT scores for abstinent subjects (figure 13.5) is less consistent from time 1 to time 2, compared with



the pattern of distribution for non-abstinent subjects across time (figure 13.6).

Figure 13.5:

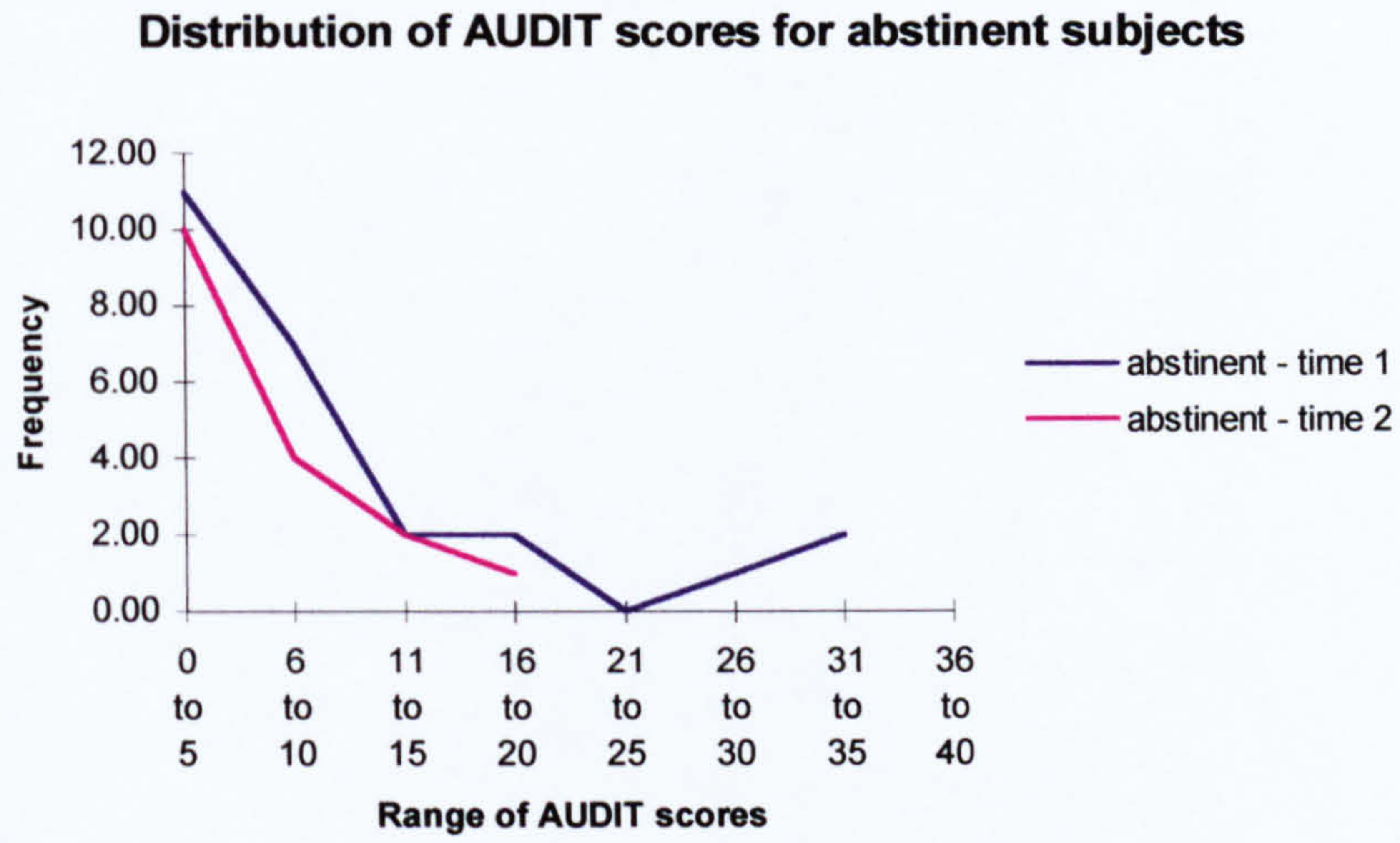
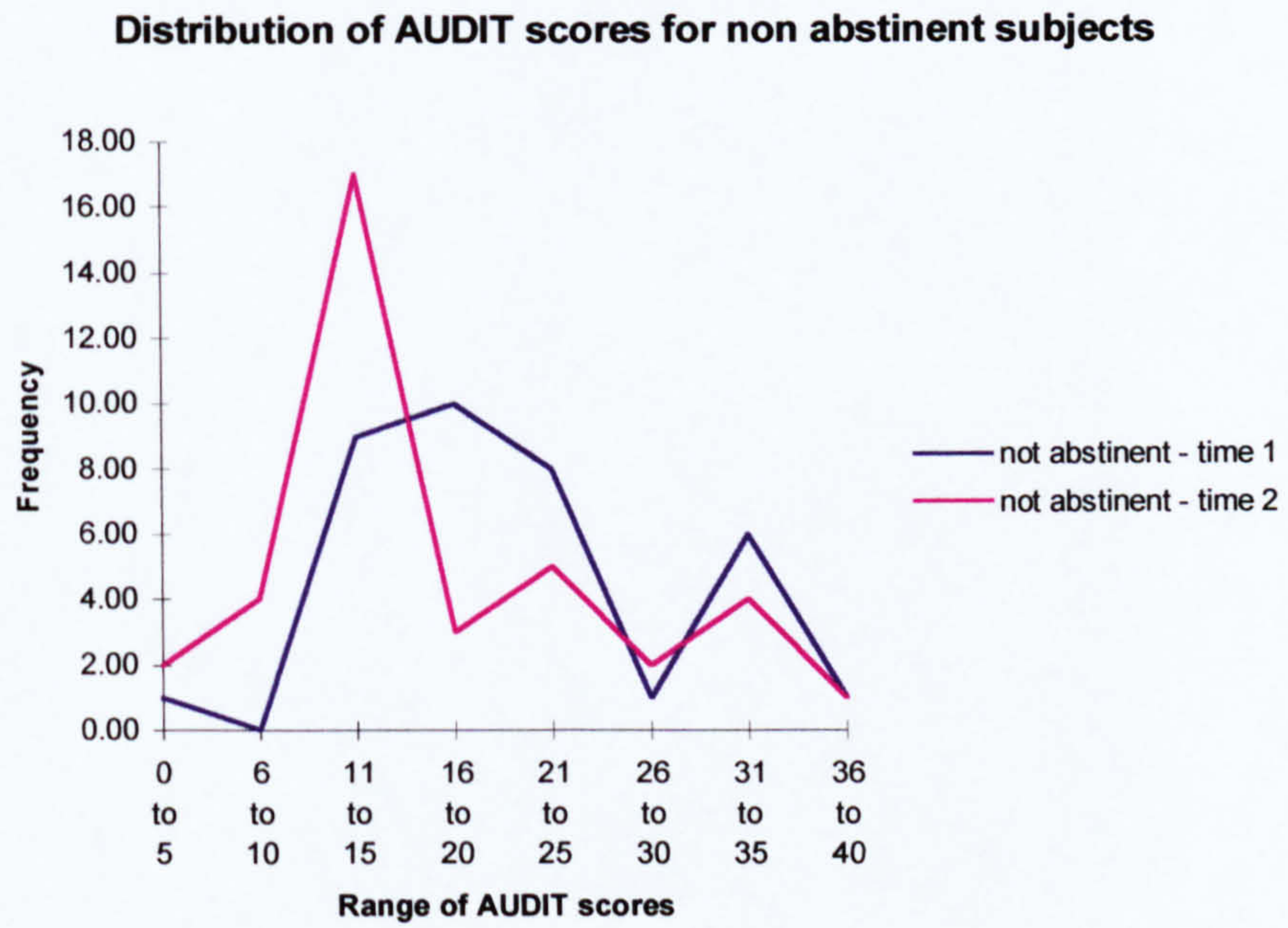


Figure 13.6:





## **Correlational analysis: AUDIT scores and agency**

As with the previous analysis of abstinence and AUDIT, the correlation of agency contact and AUDIT does not meet the criteria for Pearson's or Spearman's correlational analyses.

Therefore, the Point Biserial Coefficient of Correlation ( $r_{pb}$ ) was selected as the most appropriate means of correlating a dichotomous variable (agency contact - coded as either "in" or "out") with another variable measured on an interval scale (AUDIT score).

Agency contact and AUDIT scores (time 1) :  $r_{pb} = -.363$  (n= 61)  $p = <.01$

Agency contact and AUDIT scores (time 2) :  $r_{pb} = -.331$  (n= 55)  $p = <.05$

The direction of the correlation indicates that subjects not in contact with agencies have higher AUDIT scores than those subjects in agency contact.

## **Chapter 14**

### **Self-esteem scores across the Discursive Model and Stages of Change**

Chapter 14 explores the relationship between self-esteem and each of the two models, by assessing levels of self-esteem at each discursive and URICA stage. In addition, self-esteem scores according to type of agency contact and abstinence are considered.

#### **Specific Hypothesis 3**

States that a measure of self-esteem (RSE) will reveal:

- (a) Level of self-esteem will successively reduce through Functional Discursive stages one, two and three and then rise again between discursive stage three and four, rising further at discursive stage five, at which stage self-esteem will be found to be at a similar level as at discursive stage one.
- (b) Level of self-esteem to fall between Stages of Change; precontemplation to contemplation, and then to rise again at stages action and maintenance.

In order to address these questions chapter 14 divides into four sections:

- Section One: Self-esteem scores according to (i) abstinence (ii) agency.
- Section Two: Self-esteem across the stages of the Functional Discursive Model.
- Section Three: Self-esteem across the Stages of Change.
- Section Four: The correlational analysis of self-esteem scores with other variables.



## SECTION ONE:

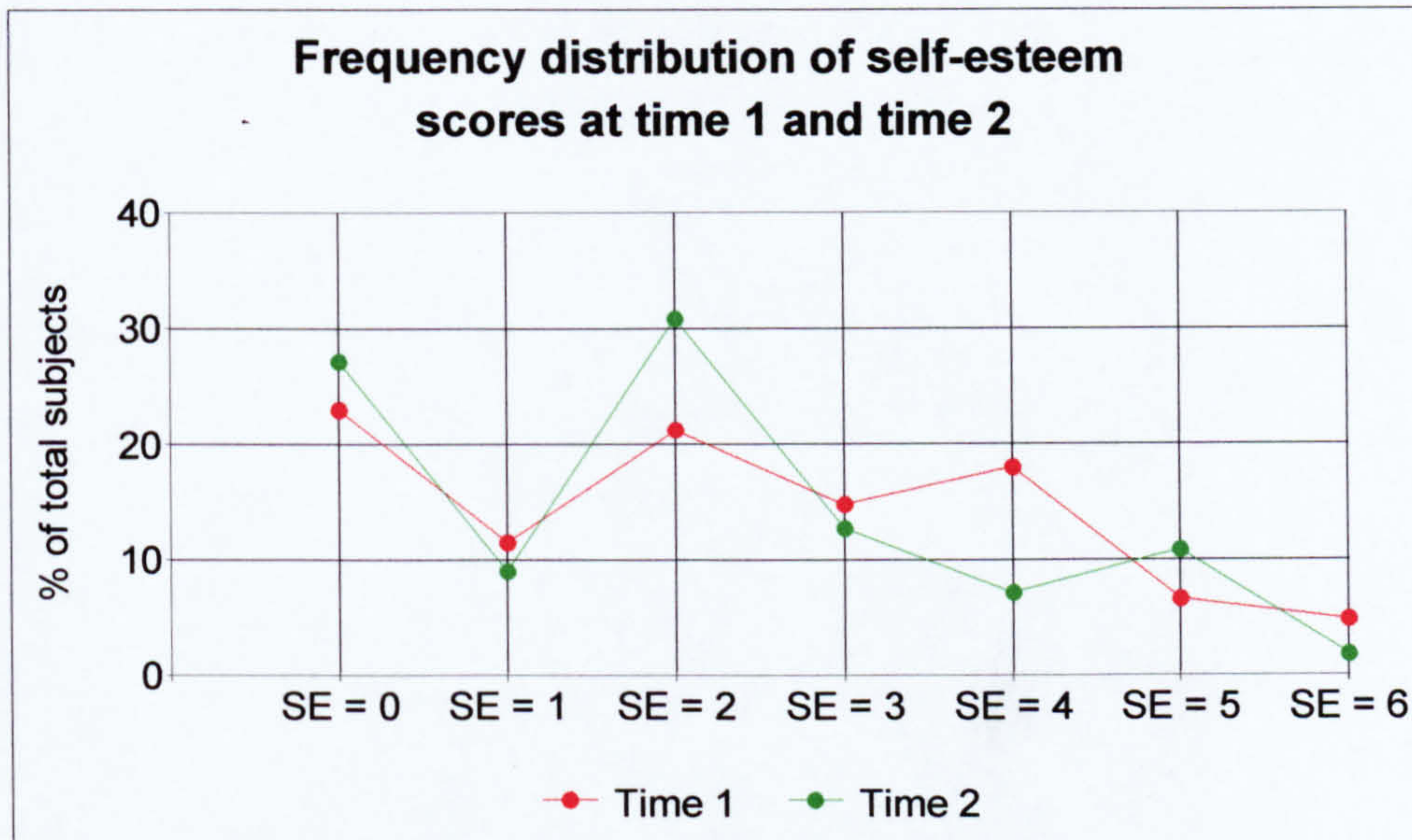
The Rosenberg Self-Esteem Inventory (1965) produces a self-esteem score on a scale from 0 (high self-esteem) to 6 (low self-esteem).

Table 14.1 below shows the distribution of subjects according to self-esteem score (0-6).

Table 14.1: Frequency of self-esteem scores at time 1 (n=61) and time 2 (n=55)

<u>Self-esteem score</u>	<u>Time 1</u>		<u>Time 2</u>	
	Count	%	Count	%
0	14	23.0	15	27.2
1	7	11.5	5	9.0
2	13	21.3	17	30.9
3	9	14.8	7	12.7
4	11	18.0	4	7.2
5	4	6.6	6	10.9
6	3	4.9	1	1.8
	$\overline{61}$		$\overline{55}$	

Figure 14.1:



The distribution of self-esteem scores appear similar across time 1 and time 2, with 34.5% and 36.2% (respectively) scoring 0 or 1 representing high self-esteem, 54.1% and 50.8% score 2, 3 or 4, and 11.5% and 12.7% score 5 or 6 representing low self-esteem. Paired samples t-test analysis of self-esteem scores showed no significant difference in self-esteem for the sample as a whole from time 1 to time 2 (n=55; t=1.01; p= .32)



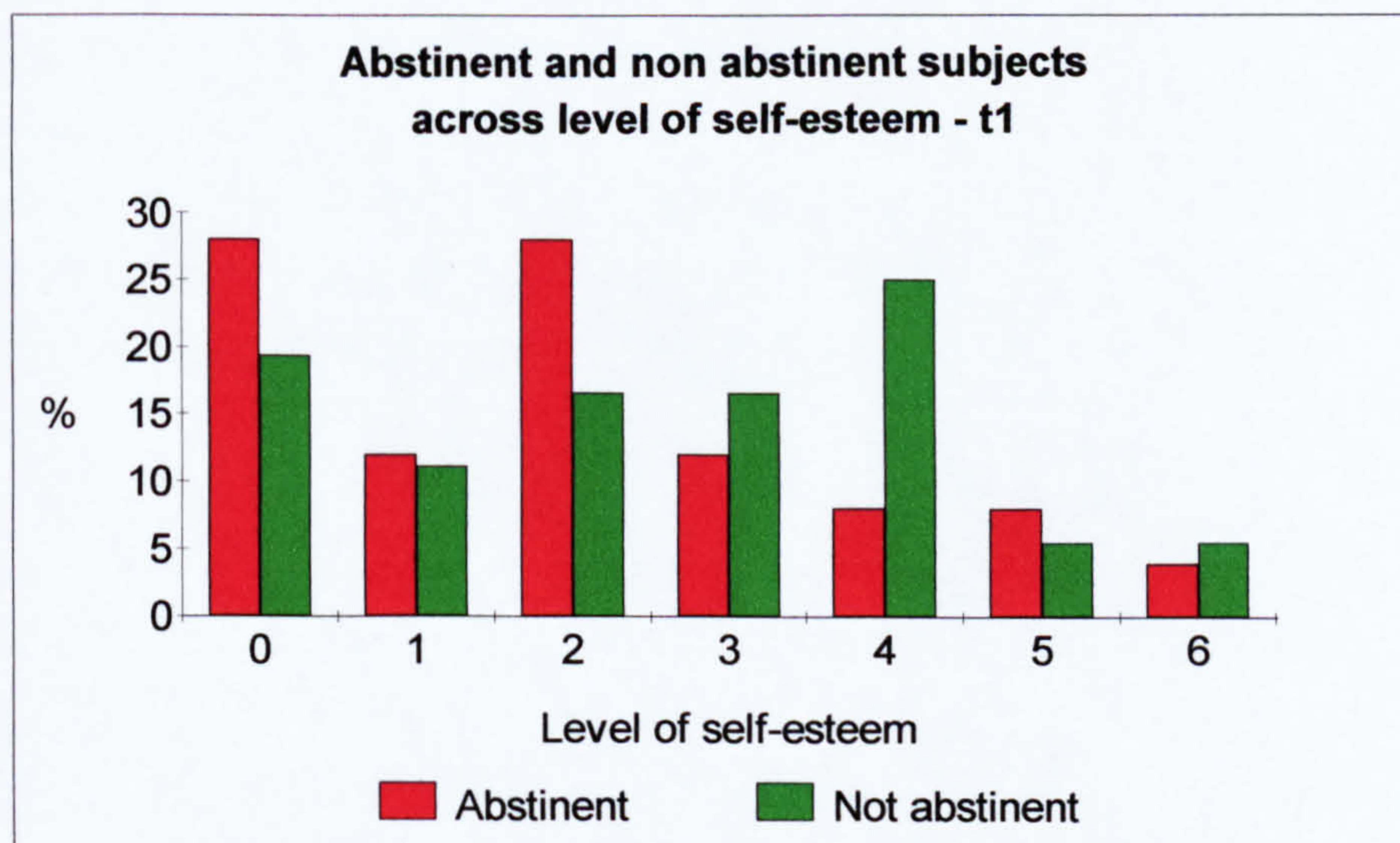
## Distribution of self-esteem score according to abstinence

As reported in chapter 8, previous research has demonstrated a relationship between problematic alcohol use and lowered self-esteem, with a subsequent rise in self-esteem following sustained abstinence. Table 14.2 gives the distribution and percentage of subjects across the seven self-esteem scores, according to whether abstinent or not at time 1 and time 2.

**Table 14.2: Frequency distribution of self-esteem scores with abstinent and non-abstinent subjects**

Self-esteem score	Time 1		Time 2	
	Abstinent	Not abstinent	Abstinent	Not abstinent
0	7 (28%)	7 (19.4%)	3 (17.6%)	12 (31.5%)
1	3 (12%)	4 (11.1%)	3 (17.6%)	2 (5.2%)
2	7 (28%)	6 (16.6%)	7 (41.1%)	10 (26.3%)
3	3 (12%)	6 (16.6%)	1 (5.8%)	6 (15.7%)
4	2 (8%)	9 (25%)	1 (5.8%)	3 (7.8%)
5	2 (8%)	2 (5.5%)	2 (11.7%)	4 (10.5%)
6	1 (4%)	2 (5.5%)	/	1 (2.6%)
n=	$\overline{25}$ (100%)	$\overline{36}$ (100%)	$\overline{17}$ (100%)	$\overline{38}$ (100%)

Figure 14.2:





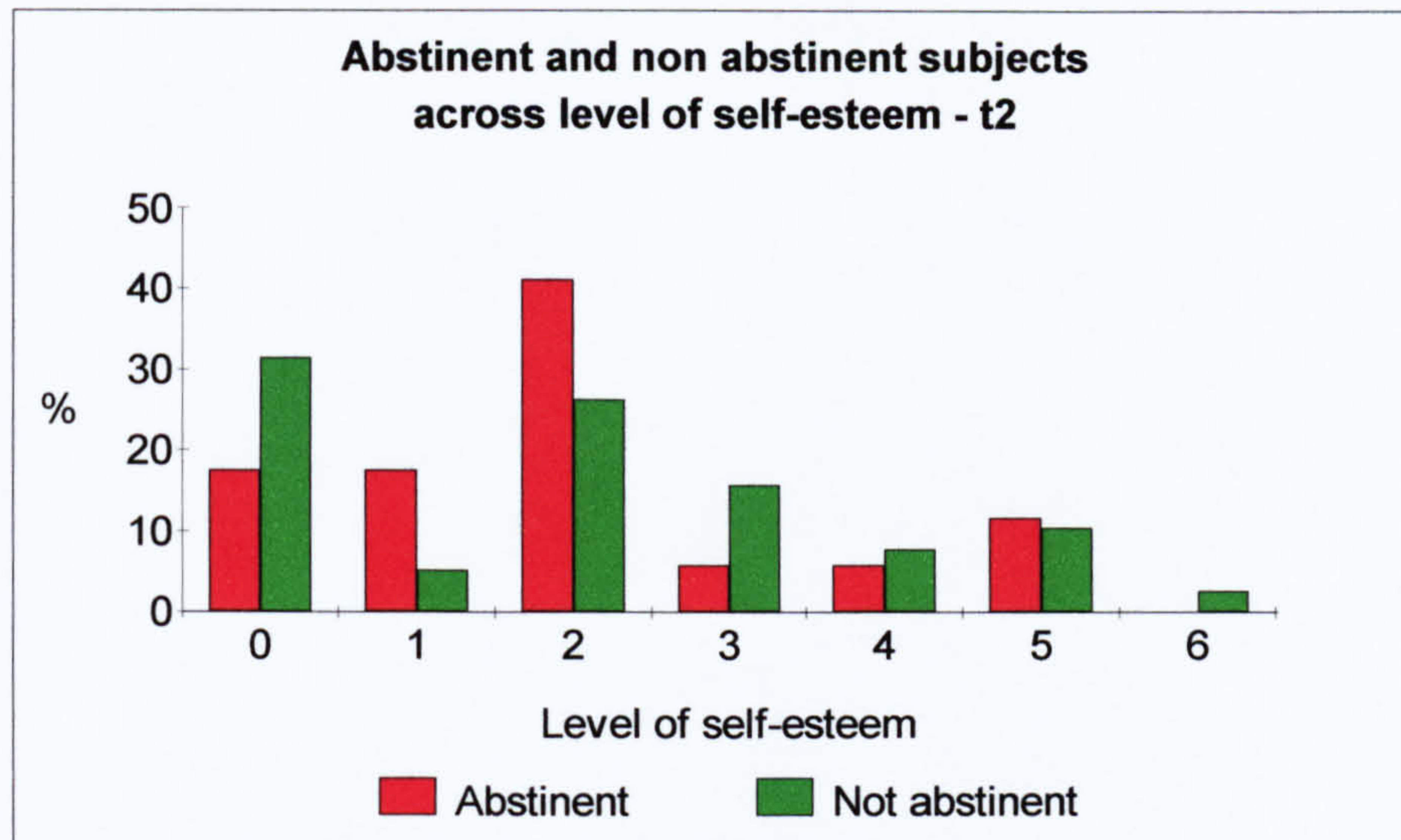


Figure 14.2 displays the percentage distribution of abstinent and non-abstinent subjects with each self-esteem score. It would appear from examining the graphs, for both time 1 and time 2, of those subjects who were abstinent a larger proportion of them had higher self-esteem; with scores of between 0 and 2. The non-abstinent subjects appear to be more equally distributed across the range of self-esteem scores.

### **Self-esteem according to type of agency**

Previous research has demonstrated that individuals who adhere to long term abstinence have higher self-esteem than current problematic drinkers (-see chapter 8). It was predicted that AA subjects would have higher self-esteem scores (based on the commitment of subjects in this group to sustain long-term abstinence) than the other subjects in the current study. This was found to be the case, as illustrated in table 14.3.



Table 14.3: Mean self-esteem scores (time 1 and time 2 combined) according to agency

<u>Agency groups</u>	<u>Mean self-esteem score time 1 and time 2 (combined)</u>
Non-agency	2.22
BCA	2.38
DART	3.33
AA	1.76

(0 = high self-esteem / 6 = low self-esteem)

## **SECTION TWO:**

### **Self-esteem across the stages of the Functional Discursive Model**

Mean self-esteem scores were computed for subjects at each discursive stage. (Note that higher figures indicate lower self-esteem)

Table 14.4: Mean self-esteem score by discursive stage at time 1 & time 2

		<b>Stage 1</b>	<b>Stage 2</b>	<b>Stage 3</b>	<b>Stage 4</b>	<b>Stage 5</b>
Self-esteem		1.22	3.00	2.32	2.53	2.00
	(SD)	(1.48) n=9	(1.82) n=13	(1.80) n=22	(1.85) n=13	(1.63) n=4
Self-esteem		1.18	2.30	2.17	2.58	1.60
time 2	(SD)	(1.16) n=11	(1.63) n=10	(1.70) n=17	(2.10) n=12	(1.67) n=5

As in the previous section which looked at AUDIT scores across the stages of each model, scores at discursive stage three contrast with expectation. One would expect self-esteem at stage three to be low because discursive stage three is considered the most problematic stage. However, as was also found when AUDIT scores across the discursive model were examined, subjects who are members of AA distort the pattern of scores. This is



because long-standing members of AA, while fitting the “helpless addict” profile of an individual at stage three, have usually been abstinent for some time and as such have re-established some “stability” to their lives. AA subjects in this study all described “having *been* at rockbottom” upon entering AA, which would tend to suggest that had their self-esteem been measured at that point in time it would have been much lower than was currently the case.

Since previous research findings have also reported that higher self-esteem is associated with sustained abstinence, it seems logical to assume removal of the (abstinent) AA subjects from the comparison of means would result in self-esteem scores which indicate lower self-esteem. This proved to be the case as shown in table 14.5.

Table 14.5: Mean self-esteem score by discursive stage at time 1 & time 2 excluding AA subjects

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Self-esteem ex AA	1.22	3.00	2.90	2.53	2.00
(SD)	(1.48) n=9	(1.82) n=13	(2.07) n=11	(1.85) n=13	(1.63) n=4
Self-esteem ex AA	1.18	2.30	3.10	2.63	1.60
time 2 (SD)	(1.16) n=11	(1.63) n=10	(2.11) n=7	(2.20) n=11	(1.67) n=5

### **Self-esteem at discursive stage according to abstinence**

Taking the observation that abstinence AA subjects have higher self-esteem a step further, subjects were divided into two groups according to whether or not they were abstinent.



**Table 14.6: Mean self-esteem scores for the Functional Discursive Model according to abstinence at time 1 and time 2**

	Abstinent subject group				Non abstinent subject group			
	Time 1 mean	(SD)	Time 2 mean	(SD)	Time 1 mean	(SD)	Time 2 mean	(SD)
<b>Stage 1</b>	/		/		1.22 n=9	(1.48)	1.18 n=11	(1.16)
<b>Stage 2</b>	2.50 n=2	(3.53)	/		3.09 n=11	(1.64)	2.30 n=10	(1.63)
<b>Stage 3</b>	1.77 n=18	(1.47)	1.86 n=15	(1.55)	4.75 (n=4)	(0.95)	4.50 n=2	(0.70)
<b>Stage 4</b>	2.60 n=5	(2.40)	3.00 n=2	(1.41)	2.50 n=8	(1.60)	2.50 n=10	(2.27)
<b>Stage 5</b>	/		/		2.00 n=4	(1.63)	1.60 n=5	(1.67)

**Figure 14.3:**

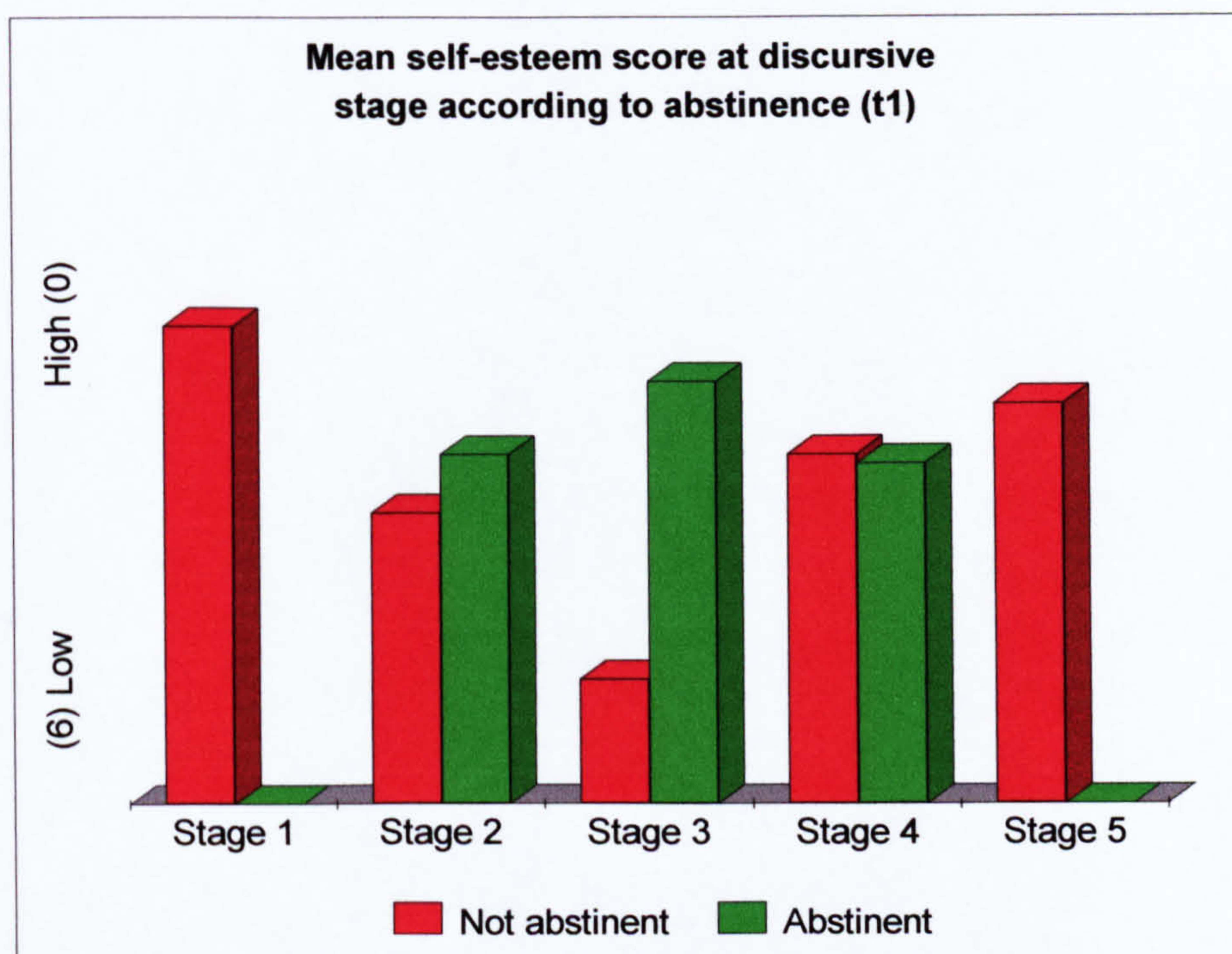
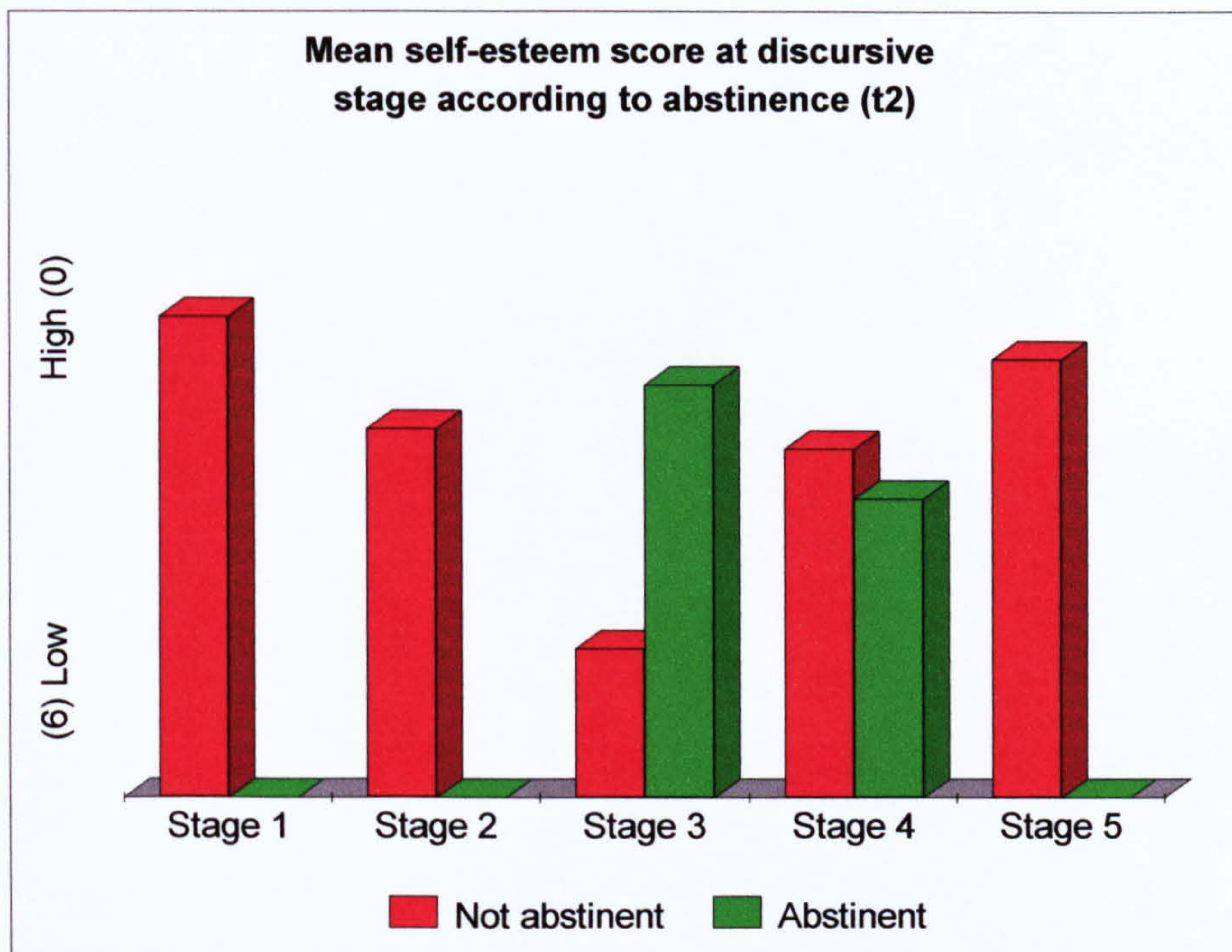




Figure 14.4:



(Note that for the two graphs above, the self-esteem scores were inverted - vertical axis - simply for illustrative effect)

As table 14.6 and figures 14.3 and 14.4 show, the discursive model demonstrates a clear pattern of self-esteem scores consistent over time 1 and time 2. For subjects who are not abstinent, self-esteem is high at stage one, decreases at stage two, decreases further to its lowest level at stage three and it then increases again through stages four and five. For abstinent subjects self-esteem is highest at stage three as a result of the high self-esteem scores produced by long-term abstinent AA subjects.

Looking back to chapter 13 figure 13.3 shows the trend of mean AUDIT scores at time 1 and time 2 to be the inverse of the pattern of self-esteem scores illustrated for non-abstinent subjects (figures 14.3 and 14.4). So, for example, when AUDIT scores are low, i.e. stage one and five, self-esteem is high. Plotting the two sets of means on the same graph demonstrates the relationship between AUDIT scores and self-esteem at each discursive stage. To do this AUDIT scores from table 13.3 were divided by 10 so that both variables could be plotted on the same scale (for example an AUDIT score of 20.72 became 2.07, 35.00 became 3.50 etc.).



Figure 14.5:



Figure 14.6:





Figures 14.5 and 14.6 clearly illustrate the consistent relationship (i.e. time 1 and time 2) between AUDIT scores and self-esteem scores at each discursive stage.

### SECTION THREE:

#### **Self-esteem across the Stages of Change**

Mean self-esteem scores were computed for subjects at each URICA stage. (Note that higher figures indicate lower self-esteem)

Table 14.7: Mean self-esteem score by URICA stage at time 1 and time 2

		<b>Precont- emplation</b>	<b>Contemp- lation</b>	<b>Action</b>	<b>Mainten- ance</b>
Self-esteem		0.67	2.73	2.43	2.50
	(SD)	(1.03) n=6	(1.73) n=11	(1.81) n=30	(1.82) n=14
Self-esteem time 2		0.83	2.80	1.87	3.07
	(SD)	(1.11) n=12	(2.77) n=5	(1.54) n=24	(1.32) n=14

As was the case when this exercise was carried with AUDIT scores, the effect of removing AA subjects from the analysis does not produce such a noticeable change at any one stage of the URICA stages. This is because AA subjects are not confined to a single URICA stage as they are for the discursive model.

**Table 14.8: Mean self-esteem score by URICA stage at time 1 and time 2 excluding AA subjects**

	Precont- emplation	Contemp- lation	Action	Mainten- ance
Self-esteem ex AA	0.66	3.00	2.51	3.00
(SD)	(1.03) n=6	(1.56) n=10	(1.88) n=27	(2.08) n=7
Self-esteem ex AA	0.83	3.50	2.00	3.66
time 2 (SD)	(1.11) n=12	(2.64) n=4	(1.66) n=19	(1.22) n=9

**Self-esteem at URICA stage according to abstinence**

**Table 14.9: Mean self-esteem scores for Stage of Change according to abstinence at time 1 and time 2**

	Abstinent subject group				Non abstinent subject group			
	Time 1 mean	(SD)	Time 2 mean	(SD)	Time 1 mean	(SD)	Time 2 mean	(SD)
<b>Pre</b>	/		/		0.66 n=6	(1.03)	0.83 n=12	(1.11)
<b>Con</b>	0.00 n=1		0.00 n=1		3.00 n=10	(1.56)	3.50 n=4	(2.64)
<b>Act</b>	1.93 n=15	(1.87)	1.66 n=9	(1.50)	2.93 (n=15)	(1.66)	2.00 n=15	(1.60)
<b>Main</b>	2.33 n=9	(2.40)	2.71 n=7	(1.41)	2.80 n=5	(2.28)	3.42 n=7	(1.27)

For the Stage of Change Model, the mean distribution of self-esteem scores across each URICA stage follows a similar pattern to the distribution across discursive stage, however the pattern of scores is less well defined. As figures 14.7 and 14.8 below illustrate there is less differentiation between stages, and less consistency across time.



Figure 14.7:

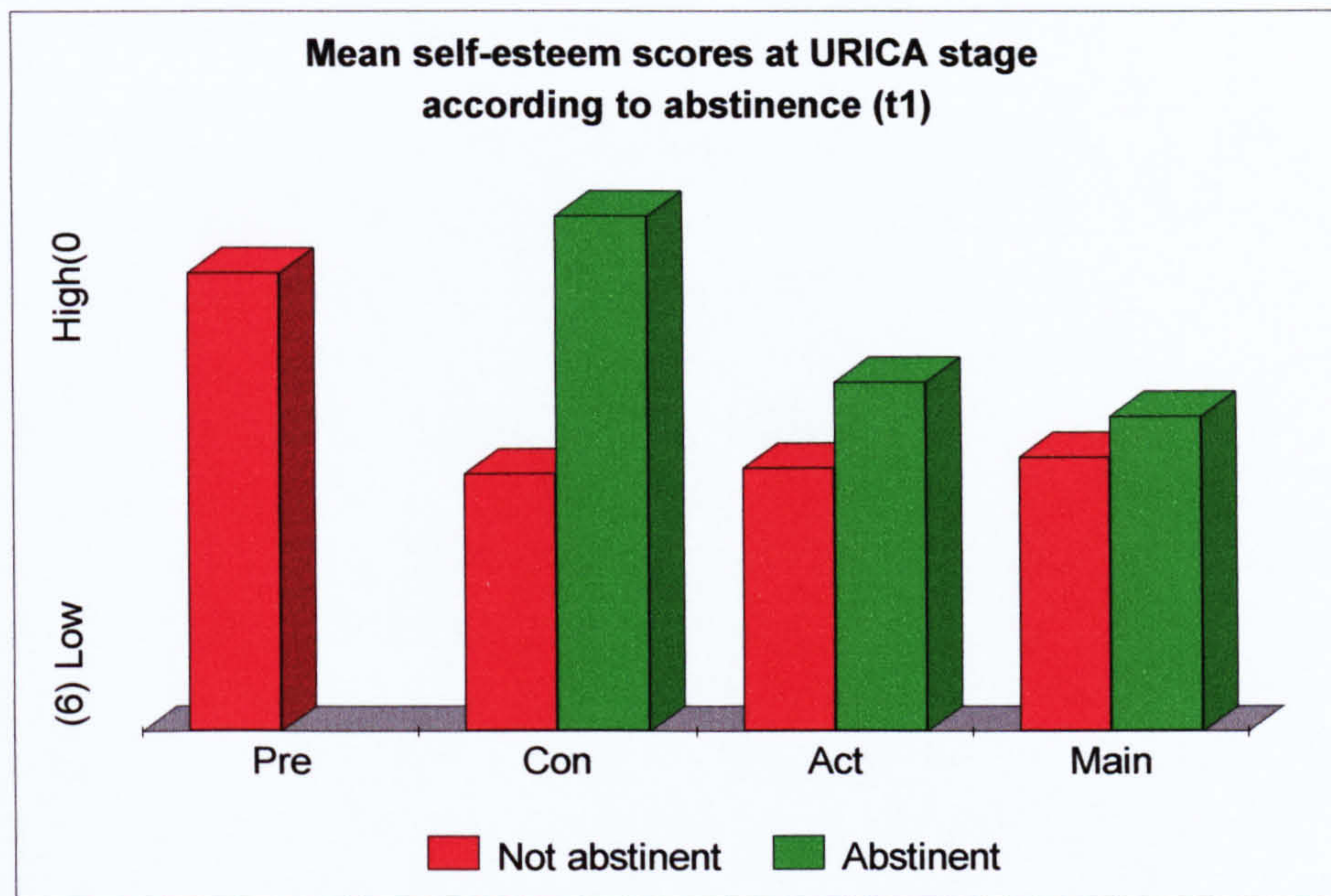
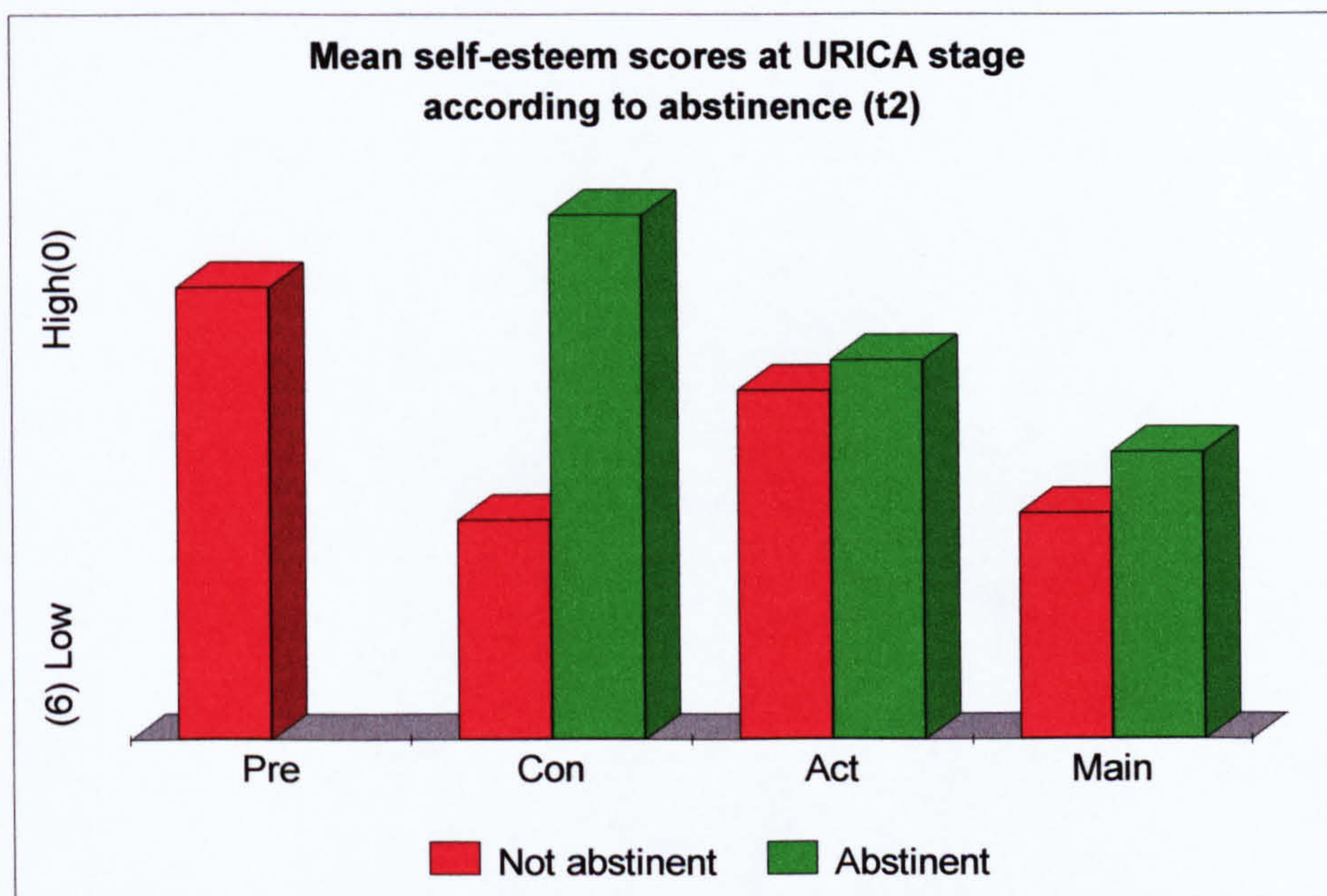


Figure 14.8:



Precontemplation is the URICA stage at which mean self-esteem scores are highest for non abstainers, with a sharp drop at contemplation, followed by an increase at action.

As with the discursive model, the URICA stage at which self-esteem is lowest for non-abstinent subjects is the same stage at which self-esteem is



at its highest for abstinent subjects, in the discursive model this is at stage three, for the Stage of Change model this is the contemplation stage.

There is an interesting difference between the pattern of self-esteem scores across both models, in the case of the discursive model the abstinent group has higher self-esteem than the non-abstinent group at stages two and three, but at stage four the non-abstinent subjects have the highest self-esteem. For the URICA stages self-esteem remains higher for the abstinent subjects at each stage (excluding precontemplation). A possible explanation for this difference could lie with the observation discussed in previous sections, the discursive model divides very clearly into two phases “getting worse” then “getting better”, this is reflected in the way trends and correlations change direction according to which half of the model is being examined. Higher self-esteem scores for non-abstinent subjects at stage four is another example of the linear trend breaking down as the scores show a change in direction. The increased self-esteem for non-abstinent subjects at stage four supports the use of the “getting better” label, despite stage four being considered a problematic “addicted” stage in the model.

As has been discussed previously, unlike the discursive model the URICA stops short of measuring an individual's complete recovery from problematic substance use. The authors of the Stage of Change Model would probably maintain that the URICA was designed primarily as an initial assessment tool to aid the selection of appropriate treatment and is not intended for individuals who have successfully resolved their problems. In contrast, the discursive model appears to measure and accommodate all phases of problematic and non-problematic substance use, including relapse and recovery.

Figures 14.9 and 14.10 compare trends in self-esteem scores with AUDIT scores across each URICA stage. While each set of plotted scores do not mirror each other as closely as in the graphs previously for discursive stage, an association still exists between AUDIT and self-esteem scores across the URICA stages.



Figure 14.9:

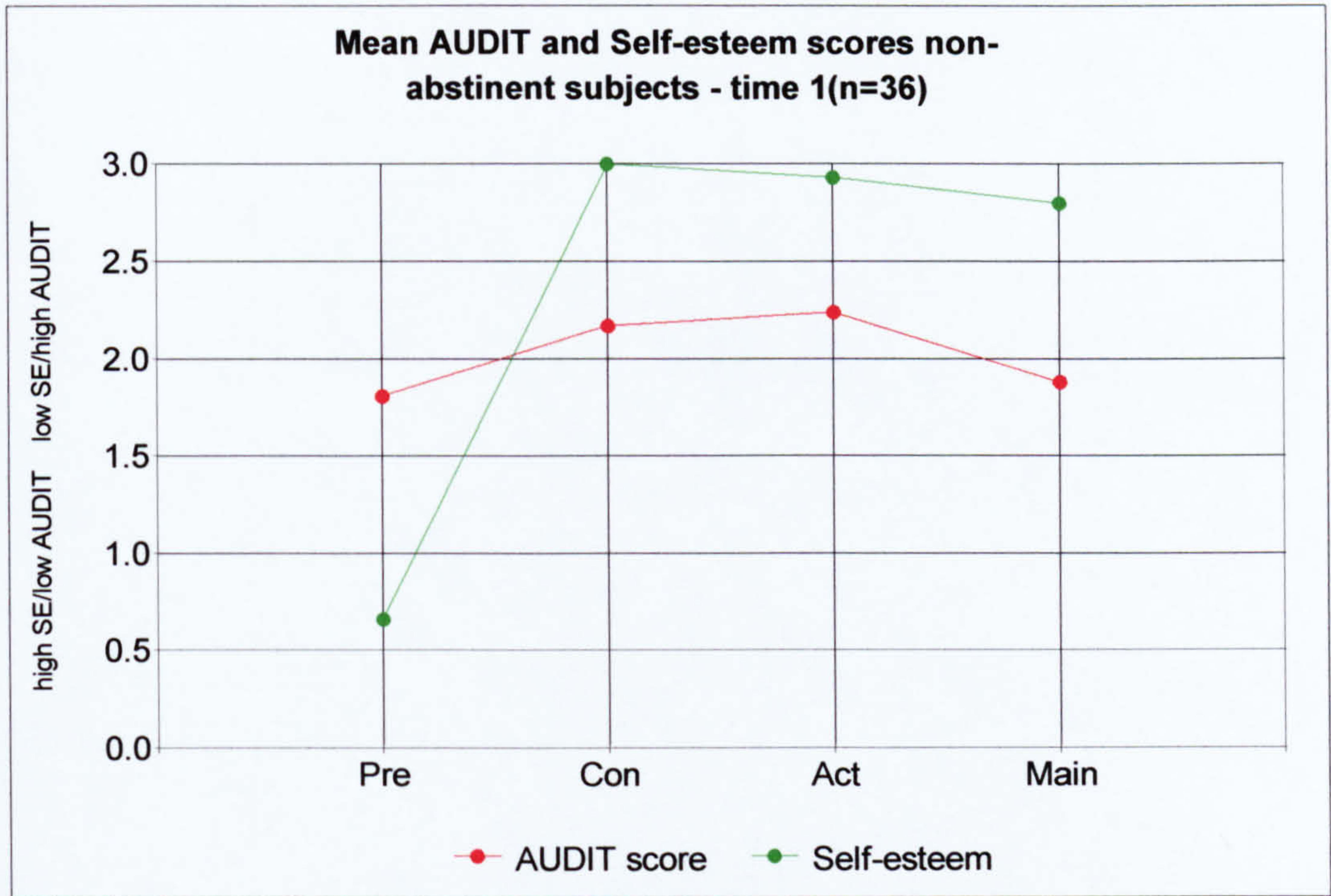


Figure 14.10:





## SECTION FOUR:

### **The correlational analysis of self-esteem scores with other variables.**

When correlated with other variables, self-esteem did not show a statistically significant relationship with any of the following; discursive stage position, stage of change, or length of time abstinent.

Self-esteem scores did correlate significantly with AUDIT scores (AUDIT and self-esteem at time 1; n=61 r= .517 p= <.000, and time 2; n=55 r= .360 p= .007). The correlation between self-esteem and AUDIT scores is predictable in view of the previous observations made of the relationship between these two variables - see graphs above.

Of the discursive variables only the correlation between purposiveness and self-esteem produced statistically significant co-efficients (time 1; r= .252 p=.049 n=61, time 2; r= .359 p=.008 n=55).

The URICA stages correlate significantly with self-esteem. With the exception of action at time 1 all stages produced statistically significant co-efficients both at time 1 and time 2.

Table 14.10: Pearson correlation co-efficients for URICA stages with self-esteem at time 1 (n=61) and time 2 (n=55)

	URICA Stage								URICA position	
	PRE		CON		ACT		MAIN		time 1	time 2
	time1	time 2	time 1	time 2	time 1	time2	time 1	time 2		
Self-Esteem	-.262*	-.292*	.342**	.360**	.153	.289*	.276*	.437**	.186	.396**

\*\* - p= <.01

\* - p= <.05

The direction of the correlations show an association between higher contemplation, action and maintenance scores and lower self-esteem, with higher precontemplation scores correlating with higher self-esteem.

When the correlational analysis for self-esteem scores with discursive dimension and URICA stage scores was repeated, dividing subjects into either abstinent or not-abstinent groups, an increased number of correlation co-efficients were found to be statistically significant.



**Table 14.11: Correlation co-efficients for self-esteem with discursive dimensions and URICA stage scores according to abstinent or not**

	Time 1 Abstinent (n=25)	Time 1 Not-abstinent (n=36)	Time 2 Abstinent (n=17)	Time 2 Not-abstinent (n=38)
<b><u>Discursive dimensions</u></b>				
Generalisability	.028	-.519**	.239	-.514**
Hedonism	-.135	.522**	.334	.563***
Purposiveness	.061	.603***	-.297	.609***
Time	-.324	.471**	-.288	.246
<b><u>URICA scores</u></b>				
Precontemplation	-.167	-.370*	-.066	-.405**
Contemplation	.486*	.364*	.047	.502**
Action	.411*	.217	.154	.383*
Maintenance	.449*	.349*	.394	.557***

\* = p < .05

\*\* = p < .01

\*\*\* = p < .000

Note that for discursive dimensions the most significant coefficients are produced by the non-abstinent group. The direction of these correlations reveals that low hedonism and purposiveness, and time in the past are associated with lower self-esteem; the negative correlation of generalisability also indicates that high generalisability is also associated with low self-esteem.

However, the notable difference in the size of correlation coefficients for self-esteem and discursive dimension variables according to abstinence or non-abstinence, could be explained by the different distribution of scores on each discursive dimension for the two groups of subjects.

For example in the case of hedonism (enjoyment from drinking) at time 1, non-abstinent subjects (n=36) produced the following distribution of scores:

Hedonism	Dimension score				
	(high) 1	2	3	4	(low) 5
count (Ss)	12	8	10	2	4
%	33.3	22.2	27.8	5.6	11.1

Abstinent subjects (n=25) produced a different distribution of scores for hedonism at time1:

Hedonism	Dimension score				
	(high) 1	2	3	4	(low) 5
count (Ss)			3	2	20
%			12	8	80

As the distribution of scores across the hedonism dimension illustrates, the non-abstinent subjects occupy the whole range from 1 to 5. In contrast, 80% of abstinent subjects have the same score for hedonism. This restricts the use of correlational analysis with the abstinent group and means that the notable differences in coefficients according to abstinence is more likely to be a direct result of the distribution of dimension scores and does not necessarily indicate that no relationship exists, just the relationship cannot be demonstrated using correlational analysis.

Scores on the other discursive dimension scales follow the same pattern as hedonism scores, with abstinent subjects demonstrating a distribution of scores on the discursive dimensions usually weighted heavily at one end of the measurement scale. In contrast, the scores for non-abstinent subjects are usually found to be more normally distributed across the whole measurement scale.

Dividing subjects according to abstinent or non abstinent for the correlational analysis of self-esteem with URICA stage scores produced larger coefficients for both groups than previously when the analyses included all subjects. However, as the correlations had all ready proved to be significant, this further analysis produced nothing to add to the observation above, i.e. lower self-esteem is associated with higher contemplation, action and maintenance scores, with higher precontemplation scores associated with higher self-esteem.



## Changes in AUDIT scores over time according to increased or decreased self-esteem

Table 14.12 below demonstrates the significant reduction in AUDIT scores for subjects whose self-esteem increased between time 1 and time 2. This compared with virtually no change in for the other two groups in the analysis.

Table 14.11: Differences in AUDIT scores from time 1 to time 2 according to changes in self-esteem:

<u>Changes in self-esteem</u>	<u>No of pairs</u>	<u>mean AUDIT score</u>	<u>t-value</u>	<u>2-tail sig</u>
<u>Increased</u>	23	17.65 12.39	3.85	.001
<u>Decreased</u>	18	14.66 13.77	.46	.652
<u>Remained same</u>	14	16.35 15.50	.67	.513

## **Chapter 15**

### **An examination of each model and comparisons between the models**

In contrast with the previous three chapters which examine each model separately according to their relationship with agency contact, level of problematic alcohol use and level of self-esteem, Chapter 15 aims to examine data generated from each model in two ways. Firstly each model is considered separately, then an attempt is made to compare the two models. This chapter, unlike the previous result chapters, does not consider data in relation to a specific hypothesis and therefore the results presented are considered to be of a descriptive and somewhat exploratory nature. It is the intention that this chapter might serve as a source of suitable hypotheses for further study.

The analyses include a description of how subjects are distributed across the stages of each model at time 1 and time 2, and the relationship between stage position in each model with abstinence. The second half of the chapter compares stage position and dimension scores for the discursive model with URICA stage position.

Chapter 15 therefore divides into four sections:

**Section One:** Distribution and movement of subjects across discursive stage.

Data supporting the proposed division of the discursive model into two phases.

The relationship between discursive stage position and abstinence.

**Section Two:** Distribution and movement of subjects across URICA stage. Profiles of URICA sub-scale scores and the relationship between sub-scale scores.

The relationship between URICA stage position and abstinence.

**Section Three:** Comparison of individual discursive stages with individual stages of change.

**Section Four:** The relationship between discursive dimensions individual stages of change.



## SECTION ONE:

### **Distribution and movement of subjects across discursive stage.**

The methodology employed by the Functional Discursive Model involves the coding of discourse elicited from unstructured interviews with each subject. Interviews are taped and subsequently transcribed, with the resulting transcripts coded using the mechanism described previously. This procedure results in the allocation of each subject to a stage of the Functional Discursive Model.

Discursive stage position of the subject sample at time 1 (n=61) and time 2 (n=55) is examined below. Table 15.1 displays the frequency count, and table 15.2 cross-tabulates subjects stage position at time 1 with time 2 to give a picture of which subjects moved stage and in which direction.

Table 15.1 Frequency count for Discursive stages

	<u>Time 1</u>		<u>Time 2</u>	
	Frequency	%	Frequency	%
<u>Discursive stage:</u>				
stage 1	9	14.8	11	20.0
stage 2	13	21.3	10	18.1
stage 3	22	36.1	17	30.9
stage 4	13	21.3	12	21.8
stage 5	4	6.6	5	9.0
	<hr/>		<hr/>	
	61		55	

**Table 15.2 Cross-tabulation for Discursive Stage at time 1 by Discursive Stage at time 2**

		Discursive stage at time 1					
		1	2	3	4	5	
Discursive stage at time 2	1	6	5<				11
	2	3>	7				10
	3			16	1<		17
	4			6>	5	1<	12
	5				2>	3	5
		9	12	22	8	4	55

< = subjects that moved back a stage

> = subjects that moved forward a stage

As table 15.2 illustrates, although two-thirds of subjects remain in the same stage at follow-up, there is a certain amount of movement within the Discursive Model from time 1 to time 2 (i.e. a period of 6 months).

Apart from a single subject who was at stage five at initial contact and stage four at follow-up, all other movement of stage position can be considered consistent with discursive model predictions. A number of subjects can be found circling around stages one and two, and stages three and four, which is the pattern predicted. There are no examples of subjects from stages three, four or five returning to stages one and two. This supports the assertion that once stage three has been reached "it is impossible to return to the earlier stages (1 and 2) of the model." (p95, Davies 1997)

**Data supporting the proposed division of the discursive model into two phases.**

Discursive stage position can not be correlated with other variables because the use of Pearson's correlation co-efficient is usually based on the assumption of a linear relationship between the two variables. As the stages of the discursive model cannot be described as forming a linear or ordinal sequence in terms of the dimension profiles which define them, performing this type of analysis, i.e. correlating stage position with other variables, becomes invalid. To clarify this point dimensional profiles across the stages of the discursive model are illustrated below (p104 Davies 1997).



Figure 15.1(a): Dimension profile for hedonism and purposiveness:

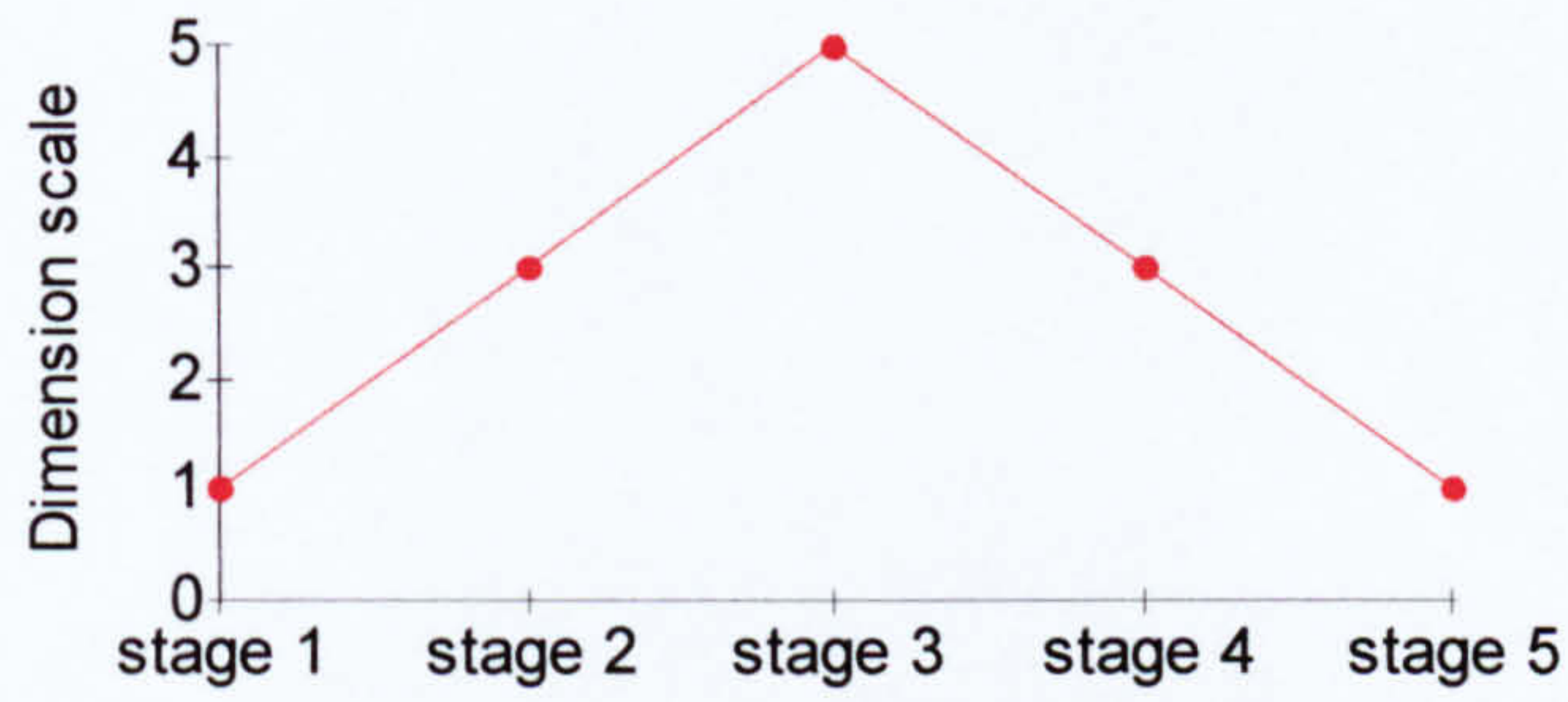


Figure 15.1(b): Dimension profile for generalisability:

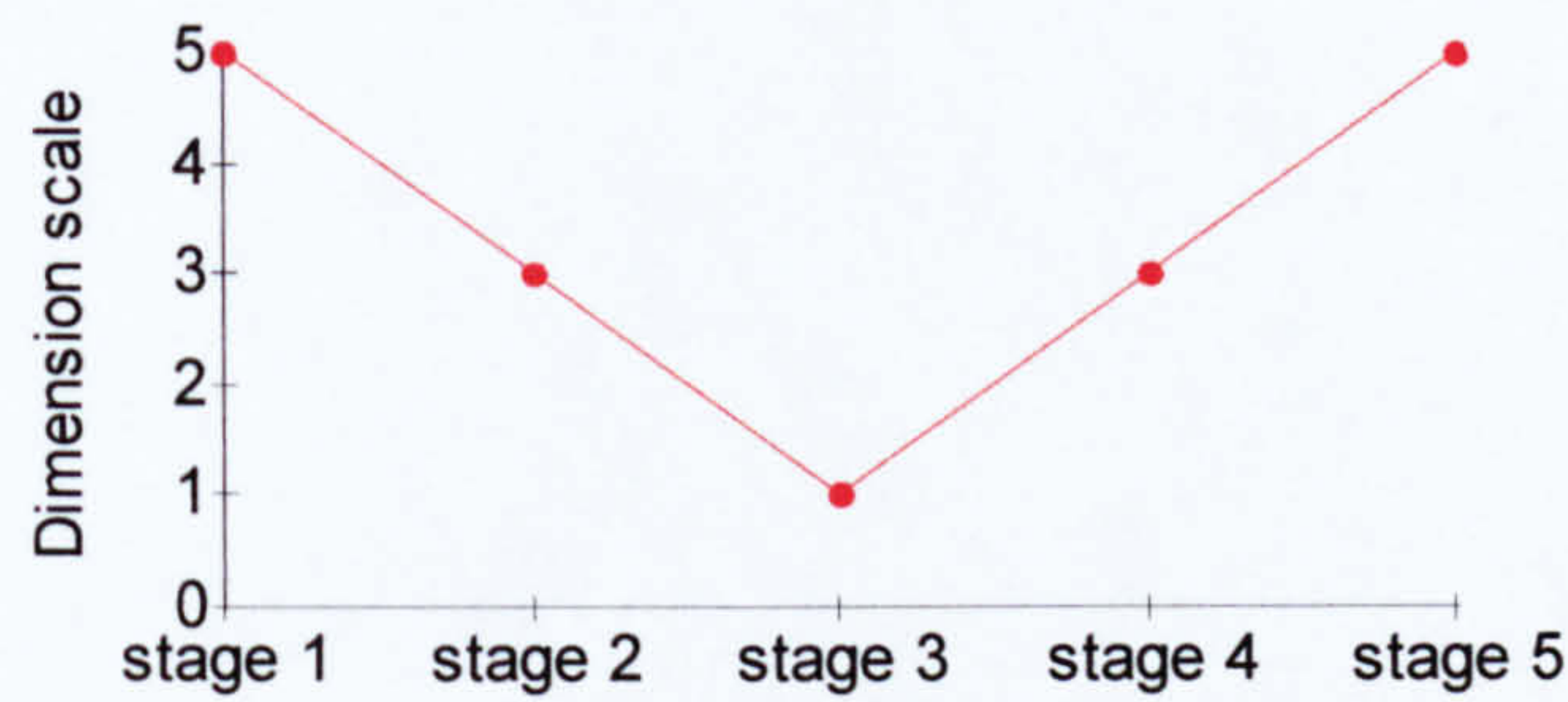


Figure 15.1(c): Dimension profile for time:

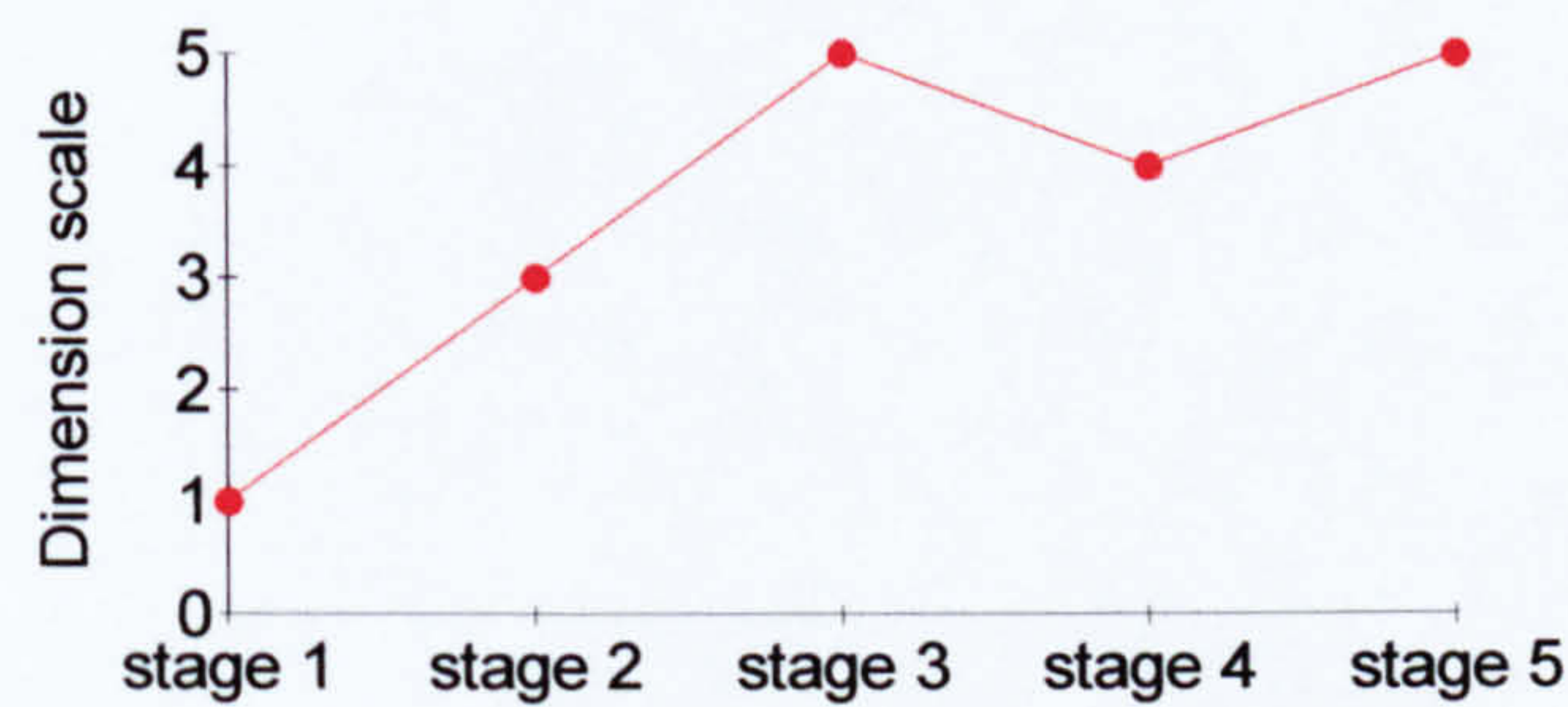


Figure 15.1(d): Dimension profile for addiction: (1= present 2= absent)

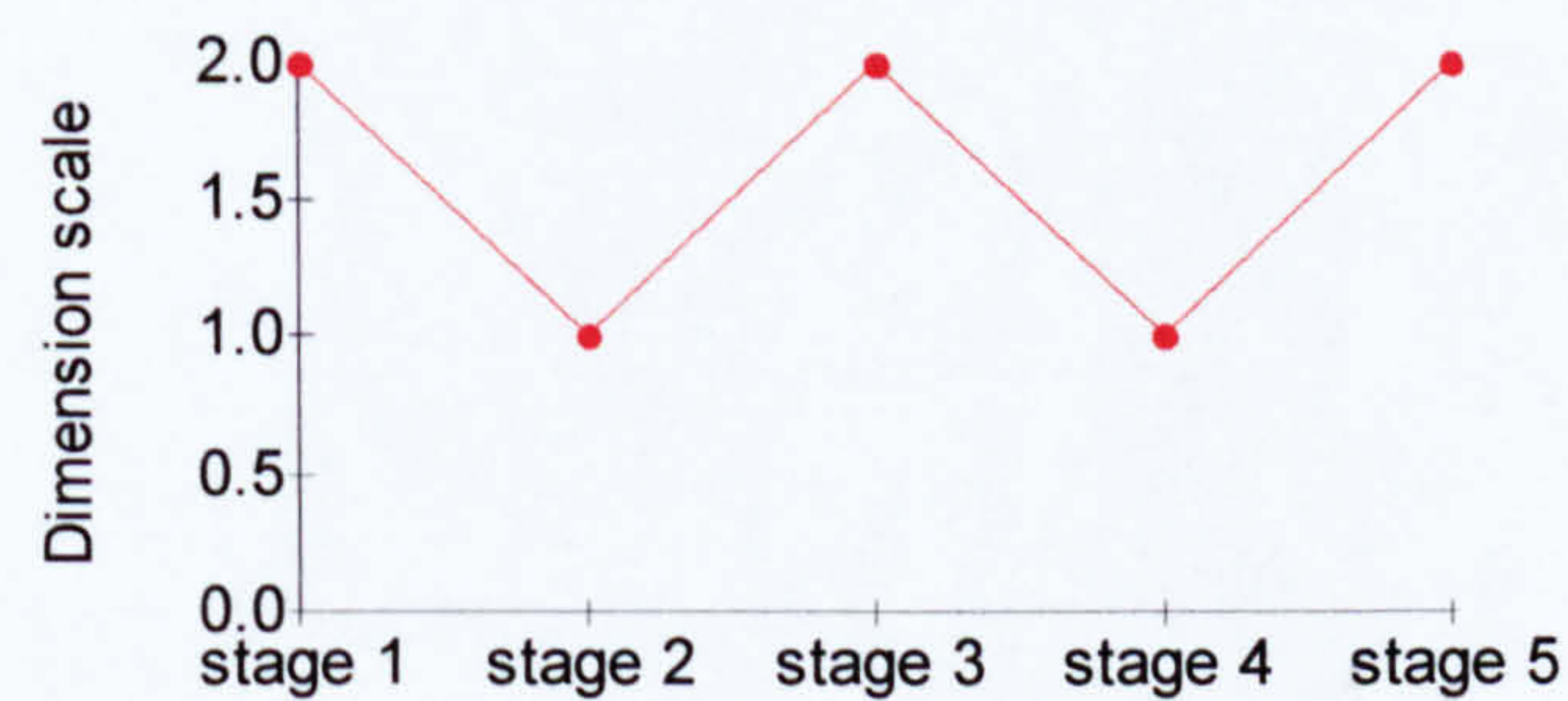
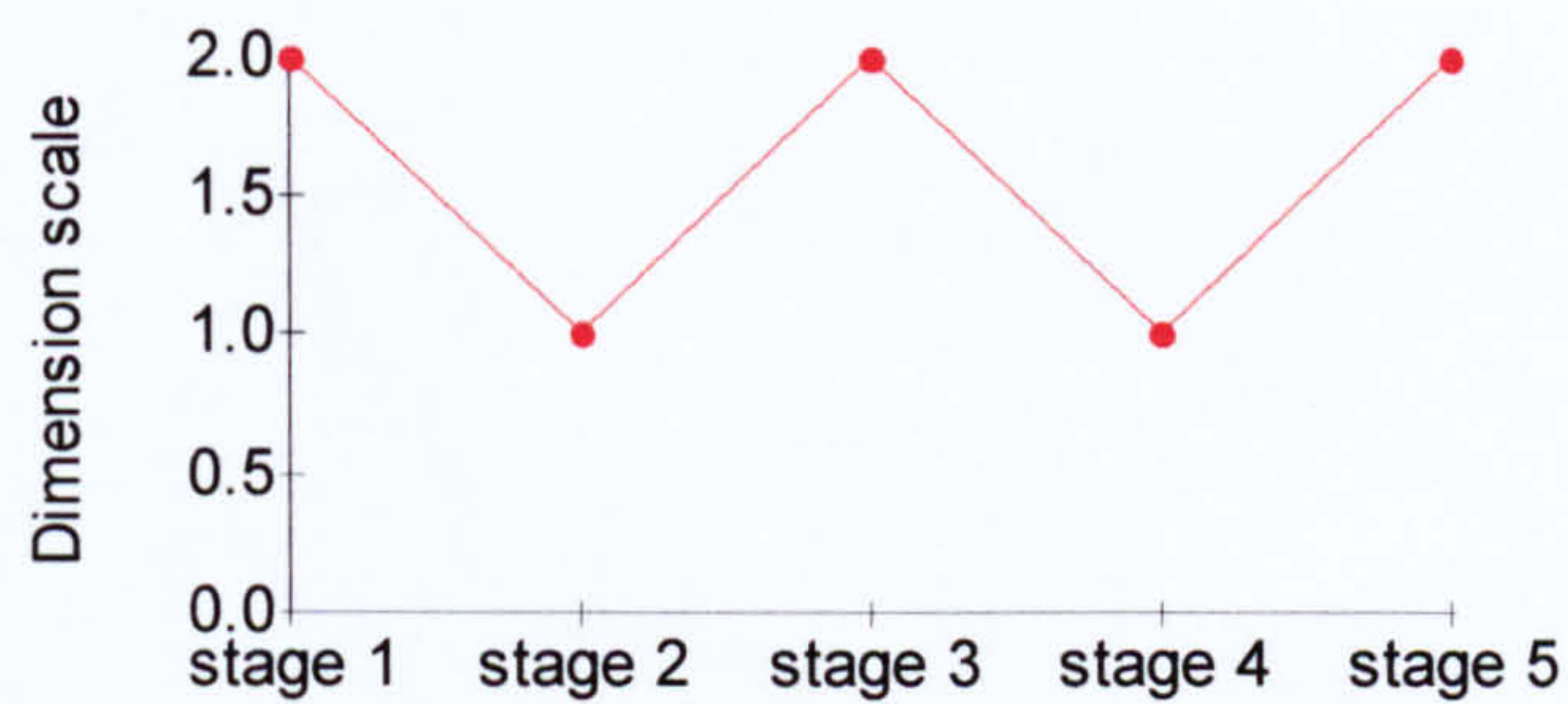




Figure 15.1(e): Dimension profile for contradictoriness: (1= present 2= absent)



With the exception of contradictoriness and time, each dimension appears to form two linear trends, each in different directions, according to the two halves of the model. As discussed previously the discursive model can be divided into a “getting worse” phase (stages one to three) and a “getting better” phase (stages three to five). The division of the model into two halves is therefore supported by the dimensional profiles above.

If the degree of linear relationship between discursive stage position and other variables were to be computed, the model would need to be subdivided into two halves, to allow analysis for each half of the model. (See Davies 1997, pp.141-143 for details of this procedure)

Tables 15.3 and 15.4 below display the co-efficients resulting from the correlations *between* each dimension score. Dimension scores from subjects in the “getting worse” and “getting better” halves of the model are correlated separately. Note however, when the model is divided in this way, the two halves are not totally independent of each other as each half includes stage three.

Table 15.3: Pearson correlation co-efficients between discursive dimensions, for subjects in stages 1, 2 & 3

	Purposiveness	Hedonism	Time	Generalisability
Purposiveness		.874*	.861*	-.885*
Hedonism	.956*		.936*	-.878*
Time	.869*	.896*		-.899*
Generalisability	-.943*	-.933*	-.900*	

time 1 n= 44 time 2 n= 38

\*= p<.000 \*\*= p= 01



Table 15.4: Pearson correlation co-efficients between discursive dimensions, for subjects in stages 3, 4 & 5

	Purposiveness	Hedonism	Time	Generalisability
Purposiveness		.735*	.590**	-.772*
Hedonism	.878*		.936*	-.830*
Time	.429**	.635**		-.678*
Generalisability	-.858*	-.777*	-.440**	

time 1 n= 39 time 2 n= 34

\*= p<.000 \*\*= p= 01

Differences exist according to the first and second halves of the model. For example, the time dimension correlates highly with the other dimensions for subjects in stages one to three, demonstrating that when the time dimension is in the present, it is associated with higher hedonism, purposiveness and low generalisability. In contrast, there appears a smaller co-efficient between time and both purposiveness and generalisability for subjects in the second half of the model. Differences such as these suggest that if the intercorrelations between dimensions vary according to position in the model, this implies that the relevance of individual dimensions to stage position depends on whether subjects are in the “getting worse” phase or the “getting better” phase of the model. Multiple regression analysis can also illustrate this point.

Table 15.5 Multiple regression analyses for stages one to three (first half) and stages three to five (second half) of discursive model using six discursive dimensions

	<u>Stages 1-3</u>		<u>Stages 3-5</u>	
Multiple R	.9768 (p= <.000)		Multiple R	.9840 (p= <.000)
R Square	.9542		R Square	.9682
Beta-weights in descending order:			Beta-weights in descending order:	
Addiction	.6830	(p=<.000)	Contradictoriness	.4981 (p=<.000)
Contradictoriness	.2702	(p=<.000)	Addiction	-.4351 (p=<.000)
Generalisability	-.2307	(p=.093)	Hedonism	-.2003 (p=.072)
Purposiveness	.1617	(p=.274)	Generalisability	.1584 (p=.050)
Time	.0401	(p=.648)	Time	.0847 (p=.092)
Hedonism	.0194	(p=.894)	Purposiveness	-.0310 (p=.736)



These data are very similar to previous research findings by Davies *et al* (1997), when the discursive model was applied to a large group of drug using subjects both in and out of agency contact.

In the Davies sample, as was also found in the current sample (table 15.5), different variables define the two halves of the model. In both the 1997 and the current sample of alcohol users, addiction, contradictoriness and generalisability appear as important predictors across the whole model.

Two differences in the multiple regression analyses for each of the separate samples were found. Purposiveness was found to be a more important predictor in the 1997 Davies study, but makes no significant contribution with the current sample of alcohol users. Also, whilst hedonism features in both halves of the model for the Davies sample, it only appears to have any predictive importance in the second half of the model in the current sample. These differences may be due to the contrast in type of substance use (i.e. alcohol versus drug use), or as a result of any number of other possible confounding variables. However, in general, across the two subject samples the separate multiple regression analyses produce very similar results. Therefore the current data contributes to existing empirical data and endorses the replicability of the discursive model.

### **Discursive Model and abstinence**

Abstinence has previously been considered in relation to both AUDIT scores and self-esteem scores, with each model. However this section examines abstinence as a feature of individual discursive stage.

Table 15.6 displays the incidence of abstinence at each discursive stage, for time 1 and time 2.

**Table 15.6: Number of subjects abstinent at each discursive stage**

<u>Discursive stage</u>	<u>Time 1</u>		<u>Time 2</u>	
	Abstinent	Not abstinent	Abstinent	Not abstinent
stage 1	/	9 (14.7%)	/	11(20%)
stage 2	2 (3.2%)	11 (18%)	/	10(18.1%)
stage 3	18 (29.5%)	4 (6.5%)	15 (27.2%)	2 (3.6%)
stage 4	5 (8.1%)	8 (13.1%)	2 (3.6%)	10 (18.1%)
stage 5	/	4 (6.5%)	/	5 (9%)
	$\overline{25}$ $\overline{(40.9\%)}$	$\overline{36}$ $\overline{(59.1\%)}$	$\overline{17}$ $\overline{(30.9\%)}$	$\overline{38}$ $\overline{(69.1\%)}$



Clearly, there appears to be a link between abstinence and position in the discursive model.

Predictably, abstinence is not characteristic of either stage one or stage five. This is because stage one and stage five discourse is associated with the (present) non-problematic use of alcohol. As abstinence usually indicates problematic use it is unlikely to be a feature of these two stages.

The majority of abstinent subjects are found at stage three, with the largest contribution to the high level of abstinence at stage three, at both time 1 and time 2 (29.5% & 27.2% respectively), from subjects who are members of Alcoholics Anonymous. However, regardless of the effect AA subjects have on raising the level of abstinence at stage three, it is still the stage at which abstinence is most *likely* to be practised by all subjects, for variable periods of time.

Progression from stage two to stage three involves an individual losing/relinquishing control of their substance use, and adopting the self-ascribed “addict” label. Whatever the function self ascribed addiction serves (e.g. to secure a place with a treatment agency or absolve responsibility for behaviour), the self ascription of addiction will in most cases be accompanied by certain negative evaluations, such as lowered self-esteem, loss of volition and self-confidence. Abstinence is often considered the most suitable course of action for individuals at stage three, whether anticipated for a short or longer period of time. For some agencies, e.g. Alcoholics and Narcotics Anonymous, cessation of substance use is the only option advocated.

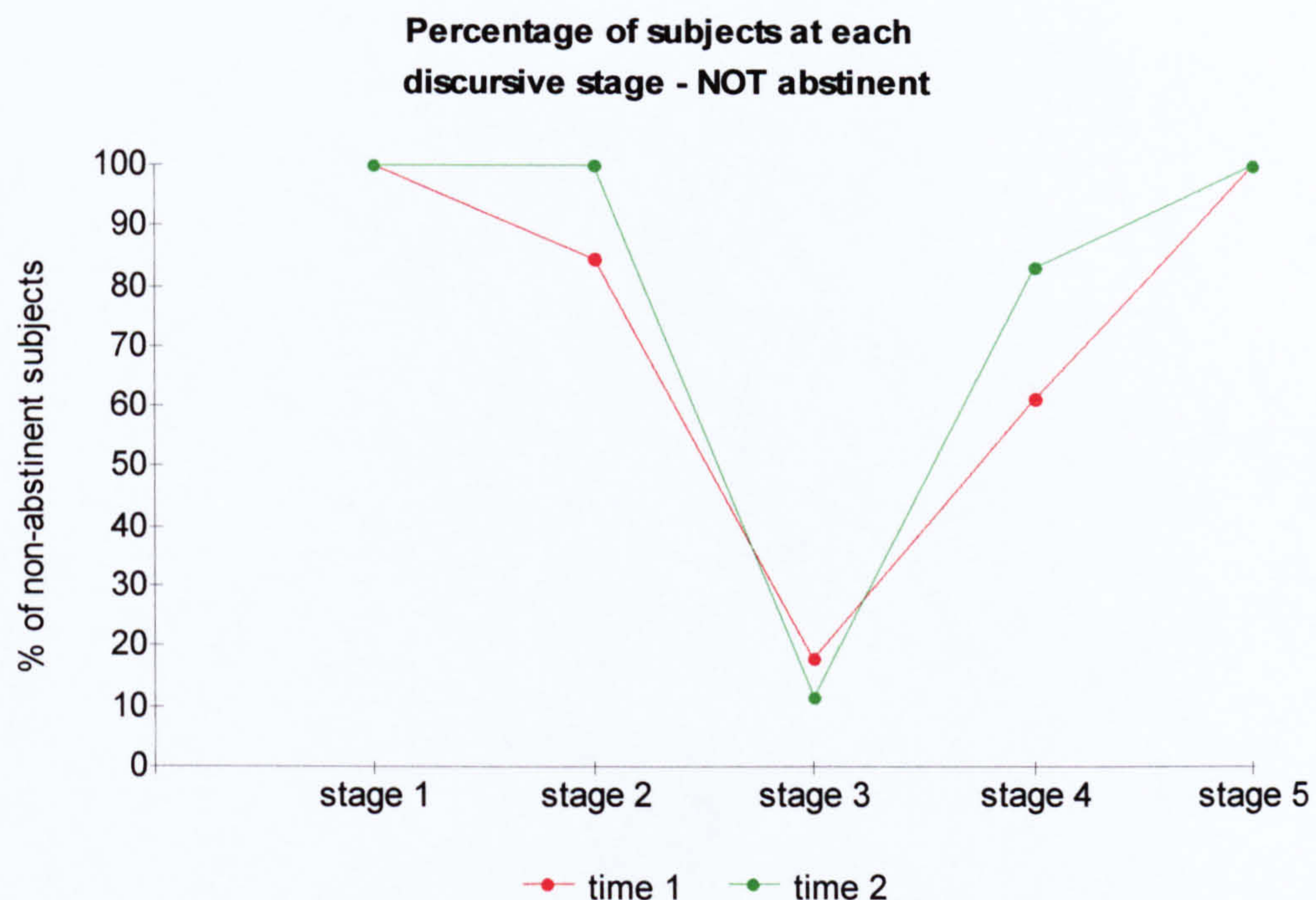
A proportion of the individuals at stage three who adhere to long-term abstinence (e.g. AA) will justify this course of action in terms of their addicted status, which they attribute to the “incurable illness” of alcoholism. Such individuals will remain “stuck” in stage three of the model and never progress any further through the model unless they subsequently reject the “illness theory” and adopt a change in discourse.

Many individuals, whether they progress through the model with or without agency contact, will choose a period of abstinence if only to allow “time out” to recover physically and resolve some of the difficulties that have accumulated during periods of heavy drinking. Abstinence in stages two and four is usually a short-term rather than long-term goal.

The pattern of abstinence/non-abstinence through the discursive stages is shown graphically below.



Figure 15.2:



The percentage of non-abstainers at each discursive stage appears consistent across time 1 and time 2. Although a proportion of the sample will be the same subjects at time 1 and time 2, a significant number of subjects did move stage position, yet the distribution remains almost the same. This therefore indicates abstinence is not simply a “treatment” approach adopted by particular individuals, but is closely associated with discursive stage position.

The association between abstinence and discursive stage was explored further using Chi Square analysis (see appendix). The Chi-Square analyses demonstrate a clear relationship between discursive stage position and abstinence, with each analysis revealing a statistically significant association, according to whether all discursive stages or just first or second halves of the model are included (significant at less than .001 in all cases). All results are consistent over time.

Chi-square was also calculated for each discursive dimension and abstinence. Table 15.7 below demonstrates a highly significant association between discursive dimension scores and abstinence.



**Table 15.7: Chi-Square analyses of abstinence with discursive dimensions, at time 1 and time 2**

<b>Discursive Dimensions</b>	<b>N</b>	<b>df</b>	<b>Pearson Chi-Square value</b>
<b>TIME 1</b>			
Purposiveness	61	4	26.660*
Hedonism	61	4	33.543*
Generalisability	61	4	22.976*
Time	61	4	34.680*
Addiction	60	1	21.789*
Contradiction	60	1	5.004***
<b>TIME 2</b>			
Purposiveness	54	4	33.491*
Hedonism	55	4	51.878*
Generalisability	55	4	40.909*
Time	55	4	41.803*
Addiction	55	1	23.727*
Contradiction	54	1	10.327**

Asymp. Sig. (2-sided)

\* = <.000

\*\* = <.001

\*\*\* = <.05

The crosstabulations, from which the above Chi-Square analyses derive, reveal the presence of abstinence to accompany low scores for purposiveness and hedonism, high generalisability, time in the past, the presence of addiction and absence of contradictoriness.

## **SECTION TWO:**

### **Distribution and movement of subjects across URICA stage**

The URICA is a 32 item forced choice, self-completion questionnaire. For the purpose of the current research the URICA was reduced in length to 24 items (see chapter 10 for detailed explanation). The fixed alternative responses to the URICA items take the form of a Likert type scale labelled "strongly agree" "agree" "undecided" "disagree" and "strongly disagree" and these alternatives are weighted from 1 to 5.

Each item corresponds to one of the four stages of change; the current version of the URICA contains 24 items (randomly ordered) with six items measuring each stage. The scores for each set of six items are totalled to give a separate score for each stage; the highest of the four totals indicates the stage an individual endorses most.

In contrast to the Discursive Model, a score for each stage in addition to the stage allocation can be entered into the data base; the stages of change also form a more linear and unidirectional model. The progression from the first stage of precontemplation to contemplation represents the acknowledgement a problem exists. The move from contemplation to action involves taking steps to remedy the problem and arrival at the final stage in the model, that of maintenance, is concerned with maintaining the changes that have been made. Successful maintenance results in “termination” which is not measured by the URICA.

This section examines URICA stage position of the subject sample at time 1 (n=61) and time 2 (n=55). Table 15.8 displays the frequency count, and table 15.9 cross-tabulates subjects position in the model at time 1 with time 2 to give a picture of which subjects moved stage position and in which direction.

Table 15.8 Frequency table for URICA stages

	<u>Time 1</u>		<u>Time 2</u>	
	Frequency	%	Frequency	%
<u>URICA stage:</u>				
precontemplation	6	9.8	12	21.8
contemplation	11	18.0	5	9.0
action	30	49.2	24	43.6
maintenance	14	23.0	14	25.4
	<u>61</u>		<u>55</u>	



**Table 15.9 Cross-tabulation for URICA stage at time 1 by URICA stage at time 2**

		URICA stage at time 1				
		Pre	Con	Act	Main	
URICA stage at time 2	Pre	5	5<	2<<		12
	Con			3<	2<<	5
	Act	1>>	3>	16	4<	24
	Main		2>>	5>	7	14
		6	10	26	13	55

- <= subjects that moved back a stage
- <<= subjects that moved back two stages
- >= subjects that moved forward a stage
- >>= subjects that moved forward two stages

Table 15.8 gives the frequency distribution of subjects at time 1 and time 2 for each of the four URICA stages. While the frequencies at time 1 and time 2 appear quite similar (although numbers for precontemplation and contemplation are reversed) the cross-tabulation shows half the subject sample to be in different stages at 6-month follow-up.

The authors of the Stages of Change model argue that individuals will exit the model more than once before successfully changing their “addictive habits”. Upon relapse, an individual may return to precontemplation having decided they do not want to change or feel they cannot change. Another alternative is to re-enter the model at contemplation and consider another attempt at change. This therefore means that while movement “two stages backwards” may appear a little inconsistent it is considered acceptable in this model, and is explained in terms of relapse with individuals returning to either precontemplation or contemplation. The four subjects (table 15.9) at maintenance time 1 and action time 2 could have in *theory*, relapsed and re-entered at contemplation, but spent very little time contemplating another attempt at change before moving into action again within a 6 month (follow-up) period.

In a later section, movement within the Stage of Change Model is compared with movement within the Functional Discursive Model, revealing differences in the rate of stage movement through each model.



## Profiles of URICA sub-scale scores and the relationship between sub-scale scores

Mean scores were computed to give the average profile of scores for each of the four stages, at time 1 and time 2.

**Table 15.10: Profiles of mean URICA subscale scores for subjects at each URICA stage**

	Stage Position							
	Precontemplation		Contemplation		Action		Maintenance	
	time 1 (n=6)	time 2 (n=12)	time 1 (n=11)	time 2 (n=5)	time 1 (n=30)	time 2 (n=24)	time 1 (n=14)	time 2 (n=14)
Precontemplation score	19.17	19.50	14.91	15.60	13.07	14.83	14.43	14.14
(SD)	(2.78)	(2.54)	(2.46)	(4.39)	(3.46)	(3.90)	(3.17)	(2.24)
Contemplation score	12.33	13.58	20.00	24.60	22.40	19.87	23.36	22.28
(SD)	(1.96)	(4.81)	(3.13)	(4.44)	(4.46)	(4.36)	(4.32)	(5.12)
Action score	12.67	12.91	14.73	20.80	25.60	24.04	24.86	22.92
(SD)	(3.26)	(1.83)	(4.10)	(5.31)	(3.58)	(3.31)	(4.46)	(4.42)
Maintenance score	11.00	10.41	16.18	20.20	20.57	18.87	25.57	24.14
(SD)	(1.54)	(3.02)	(4.40)	(6.76)	(4.16)	(3.91)	(3.99)	(4.11)

As table 15.10 illustrates, the average profile of scores for a precontemplating subject at time 1 (i.e. mean from six subjects) is 19.17, 12.33, 12.67 and 11.00; this profile fits with expectation, i.e. notably higher precontemplation scores than scores for the other three stages.

Of the eight mean profiles (time 1 and time 2) only one deviates from what might be considered a normal profile according to stage position. The profile for contemplation at time 1 demonstrates a higher mean score for maintenance than action. However, in general, the mean profiles in table 15.10 do not contradict the expected patterns of URICA scores predicted for each stage position.

Examination of individual profiles (i.e. raw data) does reveal some inconsistent scoring across the four stages. A total of 15 subjects (24.5% of total subjects) at time 1 and 11 subjects (20% of total) at time 2 had the same score for two stages, thus making their stage position somewhat ambiguous.



In order to allocate the subjects with tied scores to a stage, the approach adopted by Rollnick and Heather (1992) in the development of the “Readiness to Change” Questionnaire was repeated with the current data:

“In the event of a tie between two scale scores, the one farther along the continuum of the stages of change was chosen, on the ground that this must be assumed to be the farthest point reached in the change process.” (Rollnick and Heather 1992, p.748).

In the Rollnick and Heather study there were 14 ties which amounted to 10% of the data - less than half the number of ties found in the current study. However, the “Readiness to Change” questionnaire does not include a maintenance stage and since the current data finds the majority of ties to occur between action and maintenance scores this may account for the difference in proportion of ties between the two studies.

It is possible to make a logical attempt at explaining ties between adjacent stages as opposed to ties which occur between non adjacent stages. Although the authors of the Stages of Change Model describe each stage as “distinct” from each other, progression through the model should comply with a predetermined sequence of stages. This would suggest that as an individual prepares to make the transition from one stage to the next, there exists the potential for elevated scores for the two adjacent stages. The same conjecture cannot be applied to the examples of tied scores when the stages are not adjacent.

Table 15.11: Frequency of tied URICA scores at time 1 and time 2

	<u>Number of subjects</u>	
	Time 1 (n=61)	Time 2 (n=55)
<u>Tied Stages:</u>		
Precontemplation with Action	1	/
Contemplation with Action	5	1
Contemplation with Maintenance	/	4
Action with Maintenance	7	5
Contemplation, Action & Maintenance	2	1
	15	11



With the exception of one subject, all ties occur between contemplation, action and maintenance. This is predictable when one considers that the stage of change model can be divided into two halves, (i) no attempt/intention to change (precontemplation); and (ii) working towards/realising change (contemplation, action and maintenance). This dichotomy means that the three stages in the second half of the model encompass comparable attitudes and behavioural intent. As such, some individuals are likely to endorse items in the URICA questionnaire without differentiating between the subscales - this will produce very similar or identical scores across certain stages.

Statistical evidence for the distinction between precontemplation and the other stages is found when stages are correlated with each other.

Table 15.12: Pearson correlation coefficients between stages (time1 and time2)

	Precontemplation	Contemplation	Action	Maintenance
Precontemplation		-.580	-.455	-.439
Contemplation	-.538		.743	.814
Action	-.619	.715		.757
Maintenance	-.513	.699	.999	

time 1 n= 61    time 2 n= 55

Two-tailed significance all co-efficients:  $p < .000$

As illustrated by the coefficients in table 15.12; contemplation, action and maintenance are highly correlated in a positive direction, this means that higher scores for any one of the three stages will be accompany higher scores for the other two. Conversely, precontemplation correlates negatively with the other stages thus demonstrating that higher precontemplation scores are associated with lower scores for the other three stages; this is consistent with previous research studies involving the URICA.

However, the prediction made by McConnaughy *et al* (1983) that correlations between adjacent stage scores will be higher than correlations between non-adjacent stages was not supported. As shown in table 15.12 a higher coefficient for contemplation and maintenance is comparable to the co-efficient for contemplation and action (time 1), and the coefficient for



precontemplation and action is higher than the coefficient for precontemplation and contemplation (time 2).

Two multiple regression analyses were computed to give an indication of which URICA stage scores are better predictors of stage position.

**Table 15.13: Multiple regression analyses for URICA using the four URICA stages at time 1 (n=61) and time 2 (n=55)**

	URICA at time 1		URICA at time 2	
Multiple R	.7764	(p= <.000)	Multiple R	.7766 (p= <.000)
R Square	.6028		R Square	.6032
Beta-weights in descending order:			Beta-weights in descending order:	
Maintenance	.6827	(p=<.000)	Maintenance	.5801 (p=<.000)
Action	.3717	(p=.008)	Action	.3553 (p=.026)
Contemplation	-.2973	(p=.080)	Contemplation	-.2590 (p=.066)
Precontemplation	-.0328	(p=.753)	Precontemplation	-.1222 (p=.291)

The multiple regression analysis is consistent across time 1 and time 2, producing very similar results on each occasion.

The proportion of variance explained by the URICA subscale scores is 60%. The importance of each stage score as a predictor of stage allocation would appear to form a sequence in reverse of the stages of change sequence, with precontemplation being of least importance and maintenance scores being the best predictor of stage allocation.

### **An examination of URICA stages with abstinence**

Table 15.14 displays the incidence of abstinence at each URICA stage at time 1 and time 2.



**Table 15.14: Number of subjects abstinent in URICA stages**

<u>URICA stage</u>	Time 1(n=61)		Time 2(n=55)	
	Abstinent	Not abstinent	Abstinent	Not abstinent
Precontemplation	/	6 (9.8%)	/	6 (10.9%)
Contemplation	1 (1.6%)	10 (16.3%)	1 (1.8%)	4 (7.2%)
Action	15 (24.5%)	15 (24.5%)	9 (16.3%)	15 (27.2%)
Maintenance	9 (14.7%)	5 (8.1%)	7 (12.7%)	7 (12.7%)
	$\overline{25}$ $\overline{(41\%)}$	$\overline{36}$ $\overline{(59\%)}$	$\overline{17}$ $\overline{(30.9\%)}$	$\overline{38}$ $\overline{(69.1\%)}$

The table shows, as one might expect, that abstinence is not characteristic of precontemplating or contemplating subjects. Calculating an average percentage of abstainers (from time 1 and time 2) shows that 57.1% of abstinent subjects were in action and 38% in maintenance.

The association between abstinence and discursive stage is explored further using Chi-Square analysis (see appendix for tables). Results demonstrate a clear relationship between URICA stage position and abstinence, with the presence of abstinence increasing at each URICA stage; from precontemplation through to maintenance. Each analysis (i.e. time 1 and time 2) reveals the association to be statistically significant.

### **SECTION THREE:**

#### **The comparison of Discursive stages with URICA stages**

The mean profiles of URICA scores for subjects at each discursive stage were examined to determine whether any relationship exists between the stages of each model. It should be remembered that subject numbers at each stage will differ from time 1 to time 2 because a proportion will be the same subjects and the rest will be subjects who have moved stage position in either or both models.

Previous descriptions of the defining features of each stage of each model, invite speculation that precontemplation and discursive stage one are the most similar stages across the two models. The primary distinguishing characteristic of each of these two stages are an opposition to change (whether necessary or not). Previous analyses of data (section 2)



emphasised the disparity between precontemplation and the other stages of the URICA model. In the case of the discursive model the same polarisation of one stage does not occur. However, discursive stage one and stage five share many of the same features (exemplified by very similar dimension profiles) and can be viewed as “non-problematic” stages compared with the other three “problematic” stages.

Looking down the column headed “precontemplation” in table 15.15, mean precontemplation scores are found to be higher at discursive stages one and five at both time 1 and time 2. The row of mean URICA scores for subjects at discursive stage one (with the inexplicable exception of the action score at time 2) show decreasing scores for stage one subjects through successive URICA stages.

Mean URICA stage scores for subjects at discursive stage two reveal contemplation as the highest score at time 1, with action more highly endorsed at time 2. An explanation for this difference might be that while many discursive stage two individuals will acknowledge the necessity for a change in behaviour, this will involve a period of consideration and evaluation, i.e. contemplation, while others at stage two will embark on change, i.e. action. It seems reasonable to suggest that discursive stage two can embrace both contemplators and actioners.

Contemplation scores across all discursive stages are higher for the “problematic” stages two, three and four.



**Table 15.15: Mean profiles of URICA stage scores at each discursive stage**

		<u>Mean profiles of scores across URICA stage</u>							
Discursive		Precontemp.		Contemplation		Action		Maintenance	
		mean	SD	mean	SD	mean	SD	mean	SD
Stage 1									
	time 1 (n=9)	17.78	(3.07)	14.11	(3.33)	13.67	(3.08)	13.00	(3.39)
	time 2 (n=11)	17.90	(2.62)	16.09	(4.27)	17.72	(4.75)	14.63	(4.92)
Stage 2									
	time 1 (n=13)	13.77	(3.11)	21.69	(3.42)	20.23	(6.72)	18.69	(3.98)
	time 2 (n=10)	15.10	(3.21)	16.40	(5.48)	18.20	(6.62)	15.80	(5.49)
Stage 3									
	time 1 (n=22)	13.73	(3.43)	22.95	(4.04)	25.05	(4.70)	23.55	(4.73)
	time 2 (n=17)	13.94	(3.71)	23.35	(3.82)	24.70	(3.68)	22.82	(3.53)
Stage 4									
	time 1 (n=13)	13.08	(3.90)	23.92	(4.40)	26.00	(3.13)	21.85	(4.61)
	time 2 (n=12)	15.58	(4.05)	21.91	(6.03)	22.25	(4.69)	20.41	(7.35)
Stage 5									
	time 1 (n=4)	15.50	(1.00)	17.00	(3.55)	19.75	(7.36)	14.25	(5.18)
	time 2 (n=5)	18.80	(4.14)	14.80	(2.68)	18.60	(6.26)	13.00	(3.31)

Subjects at discursive stages three and four have similar URICA score profiles, with scores considerably lower for precontemplation and highest for the action stage. Looking at action scores across discursive stages, stage one has the lowest action scores and stages three and four the highest. Interestingly, action scores remain high at stage five and this is the main difference between URICA stage profiles at discursive stage one and stage five. High action scores at stage five are contrary to expectation because stage five positive (which includes all stage five subjects in this study) is the stage at which an individual is considered “recovered”, having overcome their “addiction”; endorsement of action statements indicates that an individual is still actively working on changing the problem. One explanation for this discrepancy may be that as a consequence of having progressed through either model, the “action” taken to change the problematic behaviour becomes an established form of proactive behaviour which continues beyond recovery. Therefore, while an individual at discursive stage five may have successfully changed their behaviour their experience of this is likely to have a continued influence. In essence, URICA action statements will have an increased salience to stage five individuals and as such are more likely to

be endorsed by “recovered” individuals as opposed to individuals at stage one.

However, because the URICA does not contain a “better” stage analogous to stage five in the discursive model, this makes comparisons between discursive stage five and the URICA stages inconclusive.

Mean URICA maintenance scores across discursive stages show maintenance scores to be highest at stage three. The expectation that maintenance scores would be highest at stage four, as both are the last stage in the recovery process, proved incorrect. Maintenance is generally a period of stability described by the authors of the Stages of Change Model as a “static stage”, therefore because the discourse defining discursive stage three is viewed as more stable than stage four discourse, this may explain why maintenance is seen to correspond more closely to stage three than stage four.

In summary, it appears that the URICA stages can be accommodated within the discursive model better than the other way around, with higher precontemplation scores for subjects at discursive stage one and five, and the highest contemplation scores for subjects at stage two. Not surprisingly, subjects with high action scores form the majority of subjects at both stage three and stage four. Less predictable was the greater proportion of maintenance subjects found at stage three rather than stage four, as it was expected that the stages in each model representing an “improvement” on the previous stage, i.e. stage four and maintenance, would share more of the same subjects.

The reason the URICA stages appear to “map” onto the discursive model better than the other way around is probably best explained by considering the scope of each model. The discursive model can accommodate a wider range of substance users, exemplified by the inclusion of stage five which represents a return to non-problematic substance use. The stage of change model includes a termination stage (following a successful period of maintenance) which usually signifies the problem behaviour has been resolved. However, the URICA does not include measurement of the termination stage and one can only speculate that subjects at stage five of the discursive model would prove to be terminators in the stage of change model if the URICA was to incorporate measurement of the termination stage.



Another way of looking for a relationship between stage position in each model is to cross tabulate URICA stage with discursive stage.

Table 15.16: Cross-tabulation of Discursive Stage by URICA Stage (time 1)

		Pre	Con	Act	Main	
<b>Discursive stage</b>	<b>1</b>	5	2	1	1	9
	<b>2</b>		5	7	1	13
	<b>3</b>		2	10	10	22
	<b>4</b>		1	10	2	13
	<b>5</b>	1	1	2		4
		6	11	22	14	61

Chi-Square value = 42.505; Sig. <.000 (df=12; n=61)

The cross-tabulation at time 1 (table 15.16) shows most subjects at comparable stages of each model. There are a few subjects whose simultaneous positions for each model bear no relation to each other; for example, a subject in action and another in maintenance are both at discursive stage one and there is also a subject in maintenance and stage two. Subjects in the URICA contemplation stage are found across all discursive stages, although there are more at stage two than any other stage. As was discussed previously, contemplation is the most equivocal of the URICA stages and as such is the most difficult to interpret in terms of the other model.

Despite a few discrepancies between positions across the two models, they can in general be mapped loosely onto each other at time 1, but at time 2 more subjects were in contradictory positions.

**Table 15.17: Crosstabulation for Discursive Stage by URICA Stage at 6 month follow-up (time 2)**

		Pre	Con	Act	Main	
<b>Discursive stage</b>	1	4	1	5	1	11
	2	4		3	3	10
	3		2	9	6	17
	4	2	2	5	3	13
	5	2		2	1	4
		12	5	24	14	55

Chi-Square value = 12.191; Sig. .430 (df=12; n=55)

Five subjects at discursive stage one and action, one subject at stage one and maintenance, three subjects at stage two and maintenance and two subjects at stage four and precontemplation, are examples of those subjects who occupy contradictory stage positions across the two models. These individual examples amount to 11 subjects, which is 20% of the sample size at time 2, and compares with 6.5% of subjects at time 1 whose stage positions across the models did not appear to co-ordinate with each other. Note also the Chi-square value for URICA and discursive stage was statistically significant at time 1 but not at time 2.

There does not appear to be any obvious reason for this increase in the number of subjects inconsistently positioned across the two models at time 2. However as was previously noted when the models were examined individually, increased movement of stage position over the 6-month period was more apparent in the Stages of Change Model. Therefore, if subjects moved less in one model and more in the other then a higher incidence of inconsistency regarding stage positions at time 2 is inevitable.

Having established that there appears to be a difference in the rate with which an individual progresses through the two models, the question arises why this might be the case. The most obvious explanation is that while it has been shown that certain stages within the two models are similar in that they are often occupied by the same subjects, the two models are fundamentally different in how progression to another stage is achieved, i.e. the URICA emphasises behavioural intent or change, whereas the discursive model is based on an attributional shift. Therefore, while progression through each



model has the same goal, essentially the means of achieving that goal are not the same.

Another possibility is in the very different methodologies employed by each model. It could be argued that the simple questionnaire approach of the URICA can provide only a "snapshot" of an individual's status, based on how a person is feeling at that moment, which has greater potential for misrepresentation. In addition, subjects are aware that their questionnaire answers will not be challenged nor have to be justified to the extent they might be in an interview situation, and as such may not consider their answers as seriously, whereas a more comprehensive picture can emerge from an extensive interview with an individual.

It could also be argued that the increased stability of discursive stage position across the 6-month period demonstrates that the allocation procedure for the discursive model is more rigorous and reliable than that of the Stages of Change model. Conversely such stability could be due to insensitivity in the detection of some degree of change.

#### **SECTION FOUR:**

##### **The relationship between individual discursive dimensions and individual stages of change**

Another area of comparison between the two models is to look at the discursive model dimensions in relation to the URICA stages.

Mean discursive dimension scores (range 1 - 5) were computed for subjects at each URICA stage at time 1 and time 2.



**Table 15.18: Mean discursive stage dimension scores by URICA stage**

	<u>Dimension scale 1 - 5</u>			
	Hedonism	Purposive- ness	General- isability	Time
<u>Precontemplation</u>				
time 1 (n=6)	1.33	1.17	5.00	1.50
time 2 (n=12)	1.41	2.33	4.08	2.08
<u>Contemplation</u>				
time 1 (n=11)	2.82	3.27	3.00	2.91
time 2 (n=5)	3.00	3.60	2.40	3.00
<u>Action</u>				
time 1 (n=30)	3.47	3.70	2.37	3.53
time 2 (n=24)	2.91	3.34	2.79	3.41
<u>Maintenance</u>				
time 1 (n=14)	4.29	4.43	1.57	3.86
time 2 (n=14)	3.57	4.04	2.28	3.57

(The four dimensions are measured on a scale of 1- 5; high=1 and low=5 for hedonism and purposiveness; low=1 and high=5 for generalisability; present=1 and past=5 for time.)

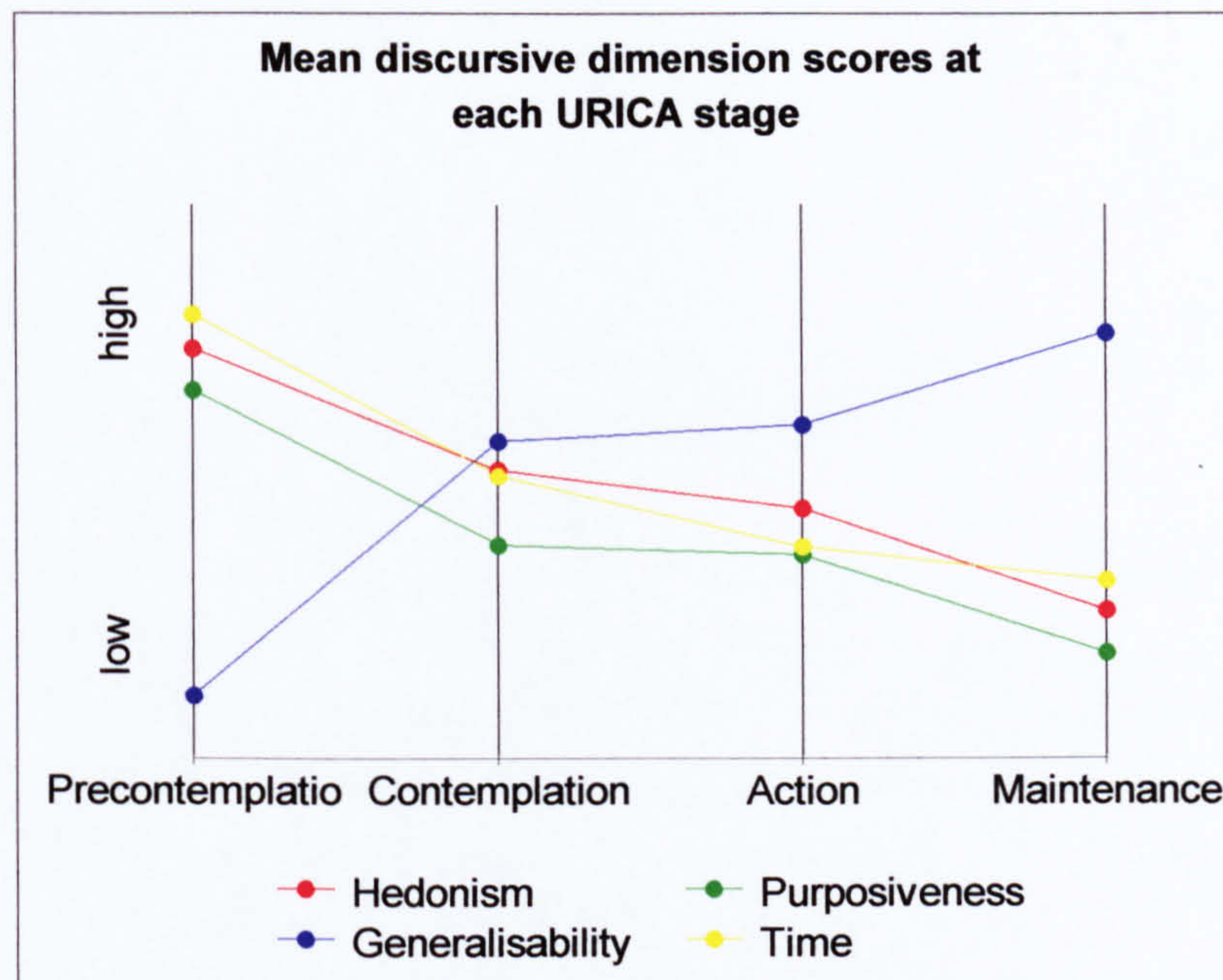
Table 15.18 illustrates mean scores at each URICA stage for the discursive dimensions. The mean dimension scores for each URICA stage correspond quite closely to discursive stage profiles. Precontemplators scores for the dimensions are closest to a discursive stage one profile, but subjects at time 2 showing a small shift towards stage two. Contemplators dimension scores tend to average somewhere between discursive stage two and three. Actioners appear to contain a mixture of stage three and four profiles. Finally as was noted before maintainers appear closest to a stage three profile. Mean dimension scores at time 1 and time 2 (table 15.18) appear sufficiently consistent to justify combining as shown in table 15.19. These mean dimension scores are then displayed graphically in figure 15.3 below.



**Table 15.19: Mean scores combined from time 1 and time 2 for discursive dimensions at each URICA stage**

	<u>Hedonism</u>	<u>Purposiveness</u>	<u>Generalisability</u>	<u>Time</u>
<u>Precontemplation</u>	2.03	2.33	4.54	1.79
<u>Contemplation</u>	2.91	3.45	2.70	2.95
<u>Action</u>	3.19	3.52	2.58	3.47
<u>Maintenance</u>	3.93	4.23	1.92	3.71

**Figure 15.3**



The mean scores (table 15.19 and figure 15.3) for the four discursive dimensions at each URICA stage reveal (according to the criteria of the discursive model) a “getting worse” trend which corresponds to the progression through the Stages of Change Model. For example, consider that a score of 1 represents high and 5 low on hedonism and purposiveness, scores for these two dimensions show a steady decline from precontemplation subjects through to subjects in maintenance. With regard to generalisability, a score of 1 represents low generalisability and a score of 5 high (i.e. high generalisability is associated with more problematic substance use), therefore scores for this dimension illustrate a shift from low to high generalisability through the URICA stages. Finally, time shifts from



the present (measured as 1) at precontemplation into the past with each successive stage.

**Table 15.20: Frequency of subjects for whom addiction and contradictoriness was present/absent according to URICA stage**

	<u>Addiction</u>		<u>Contradictoriness</u>	
	present	absent	present	absent
<u>Precontemplation</u>				
time 1 (n=6)	0 (0%)	6 (100%)	1 (16.6%)	5 (83.3%)
time 2 (n=12)	2 (16.6%)	10 (83.3%)	6 (50%)	6 (50%)
<u>Contemplation</u>				
time 1 (n=11)	3 (27.2%)	8 (72.8%)	7 (63.6%)	4 (36.4%)
time 2 (n=5)	3 (60%)	2 (40%)	1 (20%)	4 (80%)
<u>Action</u>				
time 1 (n=30)	20 (66.6%)	10 (33.4%)	17 (56.6%)	13 (43.4%)
time 2 (n=24)	14 (58.3%)	10 (41.7%)	7 (29.1%)	17 (70.9%)
<u>Maintenance</u>				
time 1 (n=14)	12 (85.7%)	2 (14.3%)	3 (21.4%)	11 (78.6%)
time 2 (n=14)	9 (64.2%)	5 (35.8%)	6 (42.8%)	8 (57.2%)

(Numbers in brackets = per cent of subjects at each URICA stage)

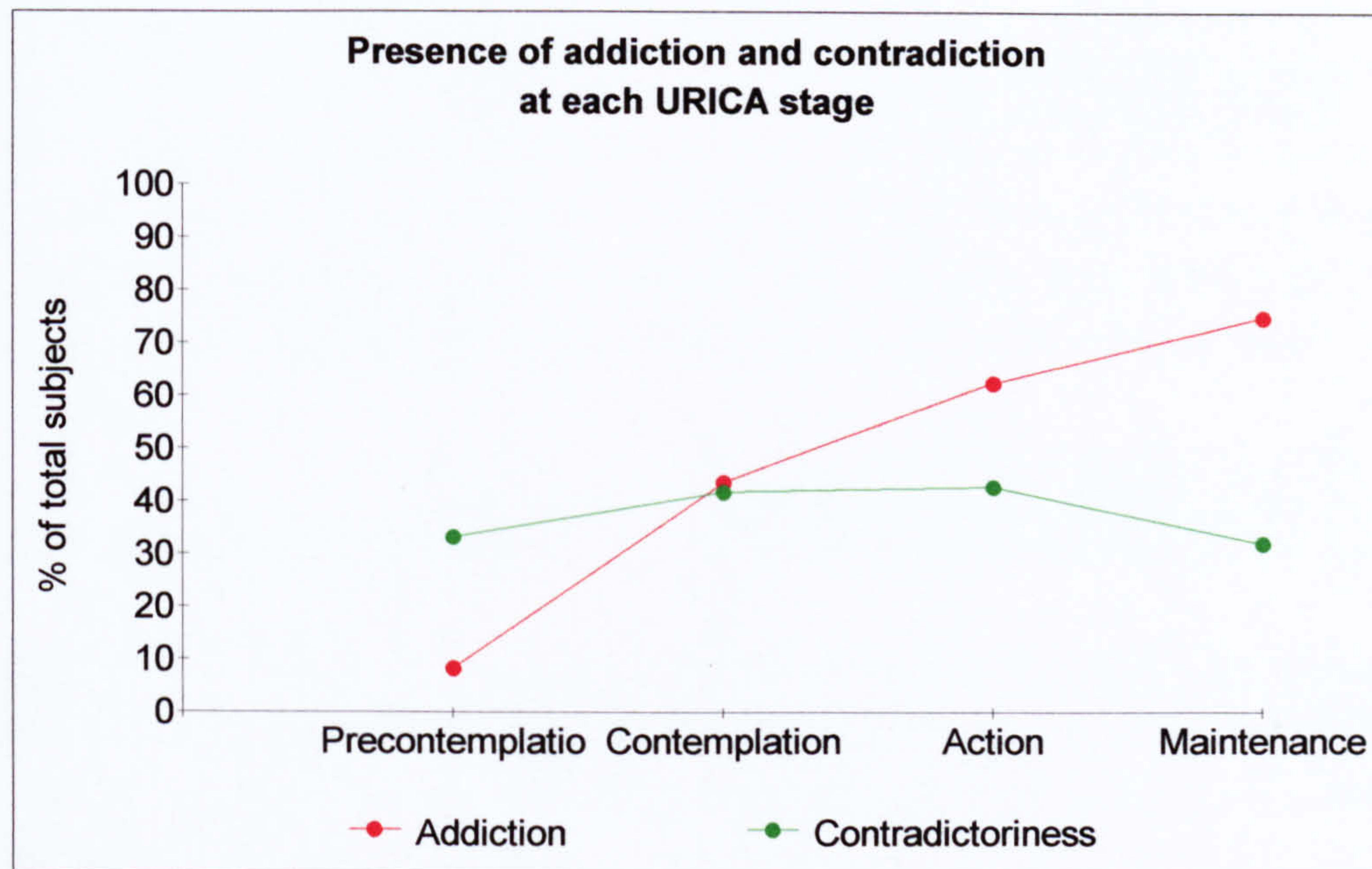
Table 15.20 examines the presence of addiction and contradictoriness at each URICA stage. Unfortunately, data at time 1 and time 2 shows little similarity, unlike the dimensions in table 15.19. This makes it difficult to suggest any pattern across URICA stages, although the presence of addiction is more consistent than contradictoriness, showing an increased presence through successive URICA stages.

Despite contradictory results from time 1 to time 2 for the presence of addiction and contradictoriness at each URICA stage, when the means from time 1 and time 2 (table 15.20) are combined and plotted on to a graph (figure 15.4) they appear more consistent.

The percentage of subjects for whom addiction was present shows a steady increase at each URICA stage. Contradictoriness, however, increases from precontemplation to contemplation, remains about the same in action but then decreases in maintenance.



Figure 15.4



Because dimension scores across the URICA stages appear to reflect only a “getting worse” trend one might speculate that the Stages of Change Model is best fitted against the first three stages of the discursive model, this is because the discursive stages beyond stage three, i.e. stages four and five are “getting better” stages.

Termination is the final stage of the Stages of Change model which is defined as:

“...the person no longer experiences any temptation to return to troubled behaviours and no longer has to make any efforts to keep from relapsing.” (Prochaska and DiClemente 1984, p.29).

Because the termination stage is not included in the URICA, there is no “better” phase of the model to compare with the latter stages of the discursive model. Based on the theoretical descriptions of each stage of change, the maintenance stage in essence, appears more similar to discursive stage four because it is concerned with maintaining gains resulting from action. However, the data examined to date show in terms of the discursive dimensions, maintenance to mirror discursive stage three and thus not demonstrate a profile of scores on discursive dimensions to suggest it is a “getting better” stage.

Therefore, if the Stages of Change Model regards maintenance as an improvement on previous stages, but when judged by the determinants of



discursive stage it appears to mirror stage three (the “lowest” point in the discursive model), then it would appear that attempts to exclusively reconcile individual stages are precarious, although this does not mean that the two models, as a whole, are incompatible.

On the basis of the current data it appears stages from each model cannot be matched stage for stage, instead for both models each separate stage appears to incorporate attributes from more than one of the stages in the other model.

### Multiple Regression analysis

A series of multiple regression analyses were computed using selected dependent variables; firstly with discursive dimensions as the independent variables, then repeated replacing the discursive variables with URICA sub-scale scores.

The dependent variables selected for each *separate* multiple regression analyses included; (i) AUDIT score, (ii) self-esteem score, (iii) abstinence, (iv) agency contact, (v) URICA stage position and (vi) discursive stage position.

As each dependent variable was used for four separate multiple regressions i.e. with URICA variables at time 1 and time 2, and discursive variables at time 1 and time 2, this produced a total of 24 multiple regressions.

The aim was to examine the proportion of variance explained by discursive variables compared with URICA variables.

Table 15.23: Multiple regression analyses for URICA and discursive model variables - time 1

Dependent Variables	URICA variables			Discursive variables		
	Multiple R	R Square	adjusted R sq	Multiple R	R Square	adjusted R sq
1. AUDIT	.375	.140	.079	.541	.293	.214
2. Self-esteem	.389	.151	.090	.460	.212	.124
3. Abstinence	.530	.281	.230	.763	.582	.536
4. Agency contact	.754	.568	.537	.656	.431	.368
5. URICA	***	***	***	.613	.375	.306
6. Dis stage	.495	.245	.191	***	***	***



**Table 15.24: Multiple regression analyses for URICA and discursive model variables - time 2**

Dependent Variables	URICA variables			Discursive variables		
	Multiple R	R Square	adjusted R sq	Multiple R	R Square	adjusted R sq
1. AUDIT	.374	.140	.071	.740	.547	.488
2. Self-esteem	.463	.215	.152	.525	.275	.181
3. Abstinence	.546	.298	.242	.920	.846	.826
4. Agency contact	.693	.481	.439	.857	.735	.700
5. URICA	***	***	***	.483	.233	.133
6. Dis stage	.292	.085	.012	***	***	***

For each of the selected dependent variables at time 1 and time 2 the discursive variables explain a greater proportion of the variance than the URICA variables (with the exception of agency contact at time 1). Because there is a difference in the number of independent variables used, i.e. six discursive variables and four URICA variables, the adjusted R square is also quoted in tables 15.23 and 15.24 above. However, while the adjusted R square is smaller (and for some dependent variables considerably reduces the proportion of variance explained) it still remains higher in each case for discursive compared with URICA variables.

Of the six selected dependent variables, discursive variables explain the largest proportion of variance for abstinence (53% at time 1 and 82% at time 2). URICA variables also explain a substantial proportion of the variance for abstinence (23% and 24% at time 1 and time 2 respectively), but the adjusted R square is considerably lower than that produced by the discursive variables.

The greatest difference in explained variance by discursive and URICA variables is found for the AUDIT. Discursive variables at time 1 and time 2 explain 21% and 48% respectively, of the variance, compared with 7% at time 1 and time 2 explained by the URICA variables.

The most interesting multiple regression analyses are found when the proportion of variance explained by discursive variables for the Stages of Change Model, and then URICA variables for the Discursive Model are compared. When a multiple regression analysis is computed using URICA variables as the independent variables and discursive stage as the dependent variable, URICA variables are found to explain 19% of the variance at time 1 and 0.1% at time 2 for discursive stage. When repeated



using discursive variables as the independent variables and URICA stage as the dependent variable, discursive variables are found to explain 30% of the variance for URICA stage at time 1 and 13% at time 2.

This means, therefore, that discursive variables can better predict URICA stage than URICA variables can predict discursive stage.



## Chapter 16

### Conclusions

This final chapter summarises the results of the previous chapters and endeavours to discuss their significance and possible consequences.

#### Summary of results

##### Agency contact

In chapter 12, the relationship between stage position in both the Stage of Change and Functional Discursive models was examined according to type of agency contact. Distribution of subjects across type of treatment agency, movement out of agency contact over time, and the relationship between agency contact and abstinence was considered according to each model.

Distribution of the subject sample according to agency contact at initial contact revealed that 57.4% of subjects in contact with a treatment agency. Between the two data collections (six months apart), 27% of the subject sample moved out of agency contact; two thirds of this number were in contact with the BCA at time 1. A significant relationship between abstinence and agency contact was demonstrated as abstinence increased across agencies - an absence of non-agency abstainers is replaced by increasing numbers through BCA and DART contact, resulting in total abstinence for all AA subjects (as might be expected). A highly significant relationship between each discursive dimension and agency contact was demonstrated. Decreasing 'hedonism' (pleasure) and 'purposiveness' (volition), the increased use of self-ascribed addiction, explanations based in the past, higher 'generalisability' and reduced 'contradictoriness' were all associated with the move into agency contact.

In addition, a significant relationship between discursive *stage* position and agency contact was also demonstrated; with subject numbers in agency contact increasing from discursive stage two to stage three, and then decreasing at stage four. A clear relationship between discursive stage position and *type* of agency contact was also found. Sustained agency contact appeared to result in a reduction of the range of dialogue produced, as measured by the discursive model. For example, the agency most likely



to be a problem drinker's first point of contact, the BCA, had clients who produced stage two, three and four discourses; the DART subjects produced stage three and four discourses; and AA subjects produced only stage three discourse (this raises the interesting question of whether the agency is instrumental in the production of certain types of discourse adopted by its clients, or whether certain types of discourse are 'expected' or even mandatory for acceptance by a particular agency).

Discursive dimension scores showed a trend confirming the increasingly problematic use of alcohol as one moved from subjects with no agency contact through individual agencies (no-contact, BCA, DART) finally to AA.

A significant relationship between URICA stage position and agency contact was demonstrated; with the proportion of subjects in agency contact increasing through successive stages from 'precontemplation' through 'maintenance'. Mean URICA subscale profiles revealed 'action' to be the most highly endorsed stage for the agency groups and 'contemplation' for the non-agency group. As expected, the agency groups scored low on precontemplation items. In contrast, the non-agency subjects produced a more even range of scores across the four URICA stages. Non-agency subjects were spread across all discursive stages and all stages of change, whereas agency subjects mainly occupied discursive stages two to four or 'action' and 'maintenance' URICA stages.

From the first to the second round of data collection, subjects, whether in agency contact or not, demonstrated more changes in stage position for the Stage of Change than for the Functional Discursive Model. This suggests that either the URICA lacks construct validity because the relationship between stage position at time 1 and time 2 appears tenuous or, alternatively, the URICA is a highly sensitive instrument capable of measuring any changes in behaviour and attitude which will appear as significant changes in stage position. In contrast, less movement in stage position, as measured by the Functional Discursive Model, was found.

Finally, non-agency subjects were found to be significantly younger than those in contact with an agency, but no significant differences in age were found across the three types of agency.



In terms of specific hypothesis 1, the results supported each part of the hypothesis. The *majority* of alcohol users not in contact with a treatment agency were found at the predicted stages of each model. Nevertheless, a proportion (23%) of the non-agency sample were found at the “addicted” stages of the Functional Discursive Model (stages three and four). A larger proportion (38.5%) of non-agency subjects did not meet with the predicted distribution for the Stages of Change Model. (Note that the hypothesis makes use of the word “*majority*” to allow for subjects who despite experiencing problematic alcohol use will not have made contact with a treatment agency, or will have dropped out of treatment.)

In terms of the second part of the hypothesis, significant numbers of alcohol users in contact with different treatment agencies were found at the predicted stages of each model. With one exception, no subjects attending the Borders Council for Alcohol were found to be at contemplation.

## AUDIT

The aim of chapter 13 was to examine the relationship between stage position, for both the Stages of Change and Functional Discursive Models, and the scores derived from the AUDIT questionnaire. In addition, correlational analysis examined the relationship between AUDIT scores and variables including abstinence, discursive dimension scores, URICA stage scores and agency contact.

Initial calculations to find mean AUDIT scores across each discursive stage found surprisingly low AUDIT scores for individuals at discursive stage three. This was explained by the presence of abstinent AA subjects, who all occupy stage three. In addition to the AA subjects, the results clearly show discursive stage three to be the stage at which abstinence is practised most. However, for individuals who are not abstinent, the highest AUDIT scores are also found at stage three. Exclusion of all abstinent subjects (figure 13.2) provides a very clear picture of the pattern of AUDIT scores through discursive stages, with increasing AUDIT scores through stages one to three (i.e. “getting worse”) and decreasing AUDIT scores through stages four and five (i.e. “getting better”).



In contrast to the discursive model - for which AA subjects were found at only one stage - abstinent AA subjects occupy all but the 'precontemplation' stage in the Transtheoretical model. As before, removal of all abstinent subjects was necessary to give clear patterns of AUDIT scores across stage of change for those subjects currently drinking. However, the pattern of AUDIT scores through the stages of change is not consistent at time 1 and time 2 for the 'action' and 'maintenance' stages, although a significant increase in AUDIT score is clearly found from precontemplation to contemplation (shown in figure 13.4).

Correlational analyses of AUDIT scores and stage variables (URICA subscale scores and discursive dimension scores) according to abstinence revealed significant relationships between AUDIT scores and dimensions for hedonism, purposiveness and generalisability, but only for non-abstinent subjects.

AUDIT scores also correlated significantly with the agency contact/no-agency contact variable, with subjects not in agency contact having higher AUDIT scores than those subjects in contact with an agency. In addition, a significant correlation between AUDIT scores and abstinence showed (as one would expect) that lower AUDIT scores were associated with abstinence.

In terms of specific hypothesis 2, the results clearly support the predicted levels of problematic alcohol use across the stages of the Functional Discursive Model. However, regarding the Stages of Change model, inconsistent data across time found the hypothesis only partly supported; a relatively high level of problematic alcohol use at 'precontemplation' increased further at contemplation. This finding (i.e. the absence of predicted levels of problematic alcohol use across action and maintenance stages) could be used to support the assertion discussed elsewhere, that these stages of change lack differentiation.

(N.B.: within some of the analyses a distinction is made between abstinent and non-abstinent subjects. Only data from non-abstinent subjects pertain to specific hypothesis 2.)



## Self-esteem.

Chapter 14 explored the relationship between self-esteem and each of the two models, by assessing levels of self-esteem at each discursive and URICA stage. In addition, self-esteem scores according to type of agency contact and abstinence were considered.

Evidence to support previous research (see chapter 8) was revealed when levels of self-esteem examined; with abstinent subjects demonstrating higher self-esteem than current problem drinkers. Long term abstinent subjects tended to distort the pattern of scores for self-esteem across the stages in each model, much in the way as was found with AUDIT scores. It was found particularly in the case of AA members who had been abstinent for long periods of time - self-esteem had risen. Because most abstinent subjects occupy discursive stage three, this presents a contradictory impression of higher self-esteem at a stage normally judged to be the most problematic. Therefore, the analyses focused on levels of self-esteem at each stage of both models according to whether subjects were abstinent or not. Consistent patterns of self-esteem emerged for the Functional Discursive Model for subjects who were not abstainers; high self-esteem at discursive stage one decreases through stages two and three and then increases through stages four and five, thus providing further evidence of the "getting worse" "getting better" phases described previously (figures 14.3 and 14.4).

A close relationship between self-esteem and AUDIT scores across discursive stages was demonstrated for non-abstainers. As levels of self-esteem rise or fall through successive stages corresponding changes in AUDIT scores occur, i.e. if self-esteem is high AUDIT scores will be low, representing less problematic alcohol use (figures 14.5 and 14.6).

Self-esteem across Stage of Change was less consistent, although precontemplation was clearly the stage at which self-esteem was highest, followed by a sharp drop at contemplation (figures 14.7 and 14.8). Self-esteem and AUDIT scores across stage of change do not return to precontemplation levels in the latter stages of the model, unlike the pattern shown for the Functional Discursive model. This highlights again the



difference between the two models in terms of breadth and differentiation through stages.

Self-esteem correlates highly with AUDIT scores. Of the discursive dimension scores only purposiveness and self-esteem are found to demonstrate a significant relationship (i.e. less volition accompanies lower self-esteem). However, dividing subjects according to abstinence produced higher correlation coefficients (Table 14.1) for the non-abstinent group, demonstrating that decreasing enjoyment, volition and increased generalisability accompany lower self-esteem. The significant correlations between URICA stage scores and self-esteem demonstrate that lower self-esteem is associated with higher contemplation, action and maintenance scores, and higher self-esteem with higher precontemplation scores. Finally, AUDIT scores were significantly reduced for those subjects whose self-esteem had increased, over the six month period.

In terms of specific hypothesis 3, the results clearly supported the prediction that level of self-esteem will successively reduce through Functional Discursive stages one, two and three and then rise again between discursive stage three and four, rising further at discursive stage five, at which stage self-esteem will be found to be at a similar level as at discursive stage one. However it is important to note - as with specific hypothesis 2 - this refers only to non-abstinent individuals.

One of the striking features to emerge from the analyses in chapters 13 and 14, was the difference between abstinent and non-abstinent subjects in terms of AUDIT and self-esteem scores at "problem" stages of each model. The necessity to consider these two groups of subjects separately had not been anticipated at the start of the research.

Regarding the Stages of Change model, data were again less consistent across time. Nevertheless, the hypothesis was supported, i.e. level of self-esteem fell between precontemplation and contemplation, and then rose again at stages action and maintenance.



## Comparisons between the two models

The aim of chapter 15 was to examine data generated from each model in two ways. Firstly each model is considered separately. Then an attempt was made to compare the two models. Unlike the previous chapters, chapter 15 does not consider data in relation to a specific hypothesis and therefore the results presented are considered to be of a descriptive and exploratory nature.

The distribution of the subject sample across the Functional Discursive Model could almost be represented by a normal distribution, with roughly one-third of the sample at stage three. From the first to the second round of data collection (a period of 6 months) one-third of the subjects moved discursive stage position. All stage movement was consistent with predicted transitions, with subjects circling around stages one and two, and stages three and four. There were no examples of subjects moving back from the second half into the first half of the model. This supports the assertion made by the authors of the model that once an individual has progressed through stages one and two they cannot occupy those stages again.

Abstinence features predominately at stage three of the model, with almost 30% of subjects at stage three found to be abstainers. The distribution of abstinence across discursive stage appears consistent over time, suggesting that abstinence is a feature of stage position and not simply associated with particular treatment approaches.

Correlational and multiple regression analyses demonstrate that different discursive dimensions vary in significance according to which phase of the model a subject occupies (i.e. “getting better” or “getting worse”). For alcohol users ‘addiction’, ‘contradictoriness’ and ‘generalisability’ are of most importance regardless of stage position. ‘Hedonism’ is a better predictor of stage position for subjects in the “getting better” phase of the model, with ‘purposiveness’ a better predictor of stage position when subjects are in the “getting worse” phase of the model.

Almost 50% of subjects, as measured by the URICA, were found to be in the action stage, with 25% at maintenance. Compared with one-third of subjects



moving discursive stage position (over 6 months), approximately half the subject sample had moved into another stage of change.

Correlation coefficients between stage scores found high positive correlations between contemplation, action and maintenance stages, with precontemplation scores correlating in a negative direction with other stages. However contrary to the claim made by McConaughy *et al* (1983) adjacent stage scores did not always produce higher correlations than non-adjacent stages.

Although the pattern of abstinence at each stage of change is not consistent across the two data collections, on each occasion action is the stage occupied by the majority of abstainers. A statistically significant association is demonstrated between URICA stage and abstinence.

Stage of change subscale profiles for those subjects allocated to discursive stage one showed a decline in scores across each successive URICA stage. In addition, high precontemplation scores at discursive stage one would tend to suggest that these two stages are the most similar across the models. Of some surprise was the finding that maintenance scores were highest at discursive stage three. It was expected that maintenance would resemble discursive stage four, because both are the last stage in the "recovery process" for each model. However, since maintenance is described as a period of stability and discursive stage three as more "stable" than stage four this may go some way towards explaining this finding. High action scores were found across both discursive stages three and four. The conclusion from this section was that the URICA stages appeared to "map" onto the discursive model better than the other way around, because the discursive model has a greater range. Cross-tabulations between stage position in each model illustrated increased movement between URICA stages compared with discursive stages during the 6-month period.

Taking the comparisons between stage of change subscale scores with discursive stages a step further; dimension scores at each URICA stage were examined. This line of enquiry showed consistent patterns of discursive dimension scores according to each URICA stage. 'Precontemplators' demonstrated the stage one dimension profile, 'contemplators' dimension scores contained a mixture of discursive stage two and stage three profiles,



and 'maintainers' produced clear discursive stage three dimension profiles. When discursive dimension scores for each stage of change are plotted on a graph (figures 15.3 and 15.4), the dimension scores clearly depict trends which suggest the stages of change (as measured by the URICA) map onto the first three stages of the Discursive Model. This makes some sense when one is reminded that the Discursive Model accommodates "recovered" problem substance users by dividing them into a "getting worse" and "getting better" phase; URICA stages do not include measurement of the "recovered" state.

Multiple regression analyses used URICA variables (URICA subscale scores) as independent variables and then repeated the analyses using discursive variables (discursive dimension scores) as independent variables. It was found that discursive variables explained a larger proportion of variance than URICA variables for a number of other variables such as abstinence, agency contact, AUDIT and self-esteem. Discursive variables also explained a larger proportion of the variance for URICA stage position than URICA variables do for discursive stage position. In other words, discursive variables can better predict URICA stage than URICA variables can predict discursive stage.

In conclusion, the different comparisons made between the two models can be summarised in one of two ways. First the Stage of Change Model fits most comfortably onto the "getting worse" phase of the Discursive Model. Alternatively, if each discursive stage was to be paired against a stage of change, dimension profiles and URICA subscale scores would suggest that discursive stage one fits closest to precontemplation, with most elements of stage five also fitting with precontemplation. Maintenance and discursive stage three appear most similar of all the comparisons made between stages. Finally, contemplation and action both relate more closely to discursive stages two and four (which are very similar in terms of dimension profiles, with the exception of one dimension).

### **Limitations of the research**

The research initially intended to recruit more subjects than subsequently proved possible. The primary obstacle to including more subjects was the geographical spread of subjects over the rural area. This involved



considerable time spent travelling to individual's homes or local health centres (visiting some subjects involved an 80 mile return journey). While every attempt was made to organise appointments with subjects on the same day according to the town they lived in, this was frequently not possible due to their work or other commitments.

Fortunately, there were no serious problems of attrition. Six subjects were lost from the first to second round of data collection; one person died and two more left the country; which left only three subjects who did not respond to repeated attempts to arrange a follow-up appointment.

Two additional measurement instruments were chosen to give an indication of levels of self-esteem and the extent of problematic alcohol use across the two models of addiction. There were no problems with the instrument selected to measure self-esteem, despite the original method of scoring the Self-esteem Inventory (Rosenburg 1965) being a little more complicated than the majority of available questionnaire coding mechanisms. The advantage of the RSE included the short, simple questions which subjects found easy to respond to; this also made the RSE easy to combine with the other questionnaires. Face validity appeared high, with construct validity subsequently established when levels of self-esteem were compared with the other measures.

A problem did arise, however, with the use of the AUDIT questionnaire which was employed to give an indication of how problematic an individual's alcohol use had become. The AUDIT was chosen in preference to other alcohol questionnaires because it is short and the questionnaire items (unlike many other alcohol questionnaires) are not judgmental and were considered less likely to influence an individual's current opinion of their drinking habits (for example by making salient to an individual that their drinking habits could be considered excessive). The problems of using the AUDIT with this particular subject sample did not become apparent until the data were analysed. The AUDIT was not designed for use with abstainers, but with current drinkers. This meant abstinent subjects tended to produce low scores representing non-problematic alcohol use, whereas in reality such individuals had experienced such serious problems with their alcohol use that abstinence was adopted to contain the problem. To prevent this consequence (i.e. subjects who had experienced serious difficulties with their drinking yet had AUDIT scores representing less problematic use)



distorting the data analyses, subjects were, on some occasions, divided into groups according to abstinent/not abstinent. Accommodating abstainers in terms of measurement of problematic alcohol use was an issue that had been overlooked when the AUDIT was selected in preference to other instruments, partly because the significant number of abstainers in the subject sample had not been anticipated.

An additional consequence of dividing subjects into groups according to abstinence, is the potential effect of altering the ratio of agency to non-agency subjects (the sample as a whole was fairly well balanced in terms of agency and non-agency subjects). For example a non-abstinent sample is likely to comprise predominantly non-agency subjects and an abstinent sample will be almost completely agency subjects.

This means when making comparisons between agency and non-agency groups, abstinence could act as a confounding variable. Similarly agency contact could act as a confounding variable when examining abstinence.

Age was also related to agency contact, and possibly also to abstinence. Age could thus be considered a potential confounding variable, because the results demonstrated a significant difference in the age of subjects according to agency contact.

One final criticism of the current study could be levelled at the procedure followed during the second round of coding for the Functional Discursive Model. The coding of follow-up interviews involved the raters coding the transcripts from the same subjects they had coded on the first occasion. This creates the possibility of raters, when coding the second interview, being influenced by knowledge of the first interview. However, this approach was chosen because one important area for consideration in data analyses was that of changes over time (time is postulated as a contextual variation). In the analyses which compared data from time one and time two, to have used different raters for each pair of transcripts could also have been viewed as a confounding variable.

In order to go some way towards addressing this criticism, in the coding of the second round of interviews, each transcript from the first round was labelled with a number, and the second round with a letter. Also, transcripts



were not presented in the same order, and no names were included in the text of a transcript.

### **Problems with the measurement of stage position according to type of problem.**

The problems with the URICA questionnaire in terms of the wording of the questionnaire items was discussed at length in Chapter 10. However, despite the modifications made to the original questionnaire items, feedback from subjects on completion of the URICA would suggest that some items were still less than satisfactory in terms of the way in which they were worded. Also, many subjects remarked on the similarity and repetition of many of the URICA items (semantic overlap) which critics of the model have previously pointed out could create a false perception of the URICA's psychometric properties (see chapter 6) and perhaps give spurious high internal consistency/reliability coefficients.

While the idea of a generic questionnaire which can be readily applied across many different problem behaviours is an attractive one, in practice it is unlikely that such a generic questionnaire (i.e. the original URICA) can be effective because non-specific questions introduce the possibility of additional confounding variables. In the field of addictive behaviours, in particular, the use of a generic term such as "problem" is unlikely to focus the individual's attention on the use of a single substance. Many individuals will frequently (to a varying degree) use a variety of substances, including nicotine, alcohol, prescription and "street" drugs.

The Readiness to Change and SOCRATES questionnaires appear to be better examples of the measurement of stages of change in terms of the wording of questionnaire items.

The second major difficulty with the URICA highlighted in this research lies in the lack of differentiation across three of its four stages. This supports the claim made by Budd and Rollnick (1996) that the three stages lack discriminant validity and are "highly interdependent". To address this problem it might be worthwhile to experiment with a different scoring system; for example, a set of question responses which form distinct categories.



Such a system may provide a clearer picture of which stage a subject endorses. The original URICA provides alternative responses to each question which could be described as forming a continuum of agreement or disagreement; but the notion of a continuum is at odds with that of discrete stages. Question responses which form distinct categories instead of a continuum of response may increase differentiation between stages, especially if the scoring of responses also demonstrated increased discrimination.

The Functional Discursive Model was developed primarily from the analysis of drug users discourse, thus prompting the question of how well the model can accommodate alcohol users discourse. Fundamental to the discursive model is the self-ascription of addiction but, as discussed in the introduction, there exists no standardised meaning of addiction. The meaning of addiction varies according to individual opinion, perspective and cultural differences across different societies, thus bringing us back to the issue of functionality when attributing addiction.

It is therefore proposed that addiction might take on a slightly different meaning according to the substance of abuse. While the dialogue surrounding alcohol use generally seems to fit the Functional Discursive Model in the same way as does drug users' discourse, the interpretation of self-ascribed *addiction* was not always as straightforward in the alcohol users' discourse as in the discourse of drug users. The reason may lie with the social context in which the dialogue takes place. In contrast to the use of illicit drugs, drinking alcohol is a legal and socially acceptable activity. Therefore the explanations given for the two forms of behaviour will frequently vary in function.

Coders of both drug users' and alcohol users' interview transcripts have commented on the differences between the dialogue produced by the two types of substance users. The main difference between the two groups of substance users lies with the use of the word addiction, with far fewer problem alcohol users overtly self-ascribing addiction than do drug users. This makes coding alcohol transcripts more difficult than drug users transcripts. Also, less frequent reference to addiction is coupled with more 'contradiction' in the discourse elicited from alcohol users. It might be useful



for coding alcohol users' discourse to include another dimension which measures the presence of 'denial', as this was a recurring feature.

Differences in the willingness of individuals to attribute addiction according to the substance under discussion highlights society's influence and the manipulation of the concept of addiction according to the social context, particularly the different attitudes towards drug or alcohol use. Self-ascribed addiction to certain illegal drugs and legal drugs such as nicotine would appear to be more acceptable than self-ascribed addiction to alcohol. The reader is reminded of research by Furnham and Lowick (1984) cited in chapter 3, which stated that the self attribution of addiction (found by Eiser in smoking studies) occurred much less frequently in drinking subjects, i.e. most drinkers did not regard themselves as addicted.

While the ambivalence surrounding the presence of this important dimension could potentially cause coding problems, the discursive coding mechanism still proved to be sufficiently effective to allow reliable coding decisions to be made by relying more heavily on the other discursive dimensions.

### **Functional Discursive Model and Stages of Change Model - different or similar?**

The general conclusion drawn from the comparisons made between the two models was that the individual stages of each model do not directly map on to each other (bearing in mind also, that one model has six distinct stages and the other four). However, certain stages within each model share more characteristics than others.

Precontemplation and discursive stage one were found to be occupied by many of the same subjects, demonstrating similar URICA subscale profiles and similar dimension scores. Nevertheless, despite both discursive stage one and precontemplation forming the first stage in each model, and subsequently sharing certain similar features, one critical difference between the two stages does exist. The denial of problematic use by precontemplators would not be unequivocally endorsed by others. Whilst discursive stage one is assumed to be a non-problematic stage of the discursive model, such an inference would probably not be made about the



pre-contemplation stage of the URICA. This seeks to highlight that the stages of change are concerned with substance use already felt to be problematic (if not by the individual concerned), whereas the discursive model includes both non-problematic and problematic stages in a substance-using career. This point is further demonstrated by the “recovered” stage in the discursive model - stage five positive.

The Transtheoretical Model does contain a “recovered” stage, called termination; however, the URICA does not measure termination. This could be considered one of the more substantial differences between the two models, i.e. the discursive model can accommodate and measure both problem and non-problematic stages, whereas the URICA focuses solely on problematic use.

Critics may argue that inclusion of a non-problematic first stage in a model of addiction (discursive stage one) is not relevant. However, discursive stage one serves two purposes: firstly, it exemplifies where all substance using careers begin, and the majority remain and secondly, movement back to stage one forms the goal for those individuals who are currently at stage two before the point of no return is reached.

Measurement of complete recovery from problematic substance use is not possible using the URICA. With contemplation and discursive stage two and maintenance and discursive stage three being found to share certain features in common it was proposed that the stages of change correspond more readily to the “getting worse” phase of the Discursive Model.

### **Treatment outcome: abstinence or controlled drinking?**

The successful application of each model in the clinical setting could depend on the treatment approach adopted to resolve the problem behaviour. Here lies another significant difference between the two models. In terms of problematic alcohol use, one of two goals is usually sought depending on the treatment perspective: either complete cessation of drinking behaviour (i.e. long term abstinence) or a return to controlled drinking.



It is the opinion of the author that the underlying principles of the URICA work well with an abstinence-based approach to problematic substance use, hence the success of the Stages of Change model when applied to smoking cessation. The majority of empirical evidence supporting the stages of change is derived from smoking behaviour. It would follow from this observation that the stages of change should fit well with the AA approach to problematic alcohol use. The results of the current study confirm maintenance to be the most frequently endorsed stage of change for AA members, compared with subjects in contact with other agencies who more frequently occupy the action stage. Maintenance is a stage which is exemplified by abstinence - the fifth option in the staging algorithm (Chapter 5):

5. I have quit alcohol use for more than 6 months.

(Maintenance)

With regard to total cessation of substance use, particularly in the areas of smoking behaviour, and the 'Twelve Step' treatment approaches, the usefulness of the URICA is not contested. However it would appear that further development might be beneficial to increase its usefulness across a wider range of settings.

In contrast the Functional Discursive Model does not exclusively embrace long-term abstinence: successful progression through the model could involve the goal of a return to controlled drinking. While abstinence may be chosen at some point during the treatment process it is not necessarily a permanent state in the discursive model. By contrast, if one believes in the 'disease' concept of alcoholism, an individual will remain stuck at discursive stage three indefinitely, as demonstrated by AA subjects in the current study. The Functional Discursive Model therefore is less suited (in its current form) to smoking cessation and 'Twelve Step' approaches, because progression into stages four and five the model is unlikely to take place at all under an abstinence based approach.

Treatment approaches which are based around harm reduction and re-educating individuals in controlled alcohol use are better accommodated



within a framework such as the Discursive Model because it allows a return to non-problematic use.

### **Clinical applications**

The application and usefulness of the Transtheoretical Model in clinical practice is well documented. The “processes of change” (see chapter 5) offer the therapist a range of techniques, both cognitive and behavioural with which to work towards a desired behavioural change. With the addition of the “levels of change” (also chapter 5) the model expands further, to one which can be described as truly eclectic in terms of the range of therapeutic approaches it utilises. Assessment of an individual’s stage of change in order to appropriately select treatment intervention is a critical feature of the Transtheoretical Model.

By way of contrast, the development of the Functional Discursive Model still has some way to proceed before it is ready for use in the clinical setting. The question of how best to apply the model has still to be addressed. However, the proposal made by the author of this thesis is one which suggests the Functional Discursive Model is most appropriately placed within a cognitive behavioural framework.

Cognitive therapy focuses “on the patient’s internal experiences, such as thoughts, feelings, wishes, daydreams, and attitudes. The overall strategy of cognitive therapy may be differentiated from the other schools of therapy by its emphasis on the empirical investigation of the patient’s automatic thought’s, inferences, conclusions, and assumptions.” ( Beck *et al* 1979; pp.7)

The process of challenging an individual’s cognitions and providing an alternative explanatory framework will frequently give rise to an attributional shift. Therefore, changing attributional style is considered an important feature of cognitive therapy, and is very clearly demonstrated when cognitive therapy is used in the treatment of depression. Cognitive therapy for depression (Beck *et al* 1979) utilises a combination of cognitive and behavioural techniques and targets specific symptoms in a highly structured way. The fundamental component of treatment lies in locating and



challenging the depressogenic thoughts and assumptions. Brewin (1990) summarises the application of cognitive therapy to the treatment of depression as:

“... identifying cognitive patterns that summarise patient’s experiences in ways that had not previously been considered, and by presenting patients with hitherto unconsidered alternative strategies.” (p177 Brewin 1990)

The negative attributions and assumptions of the addict (for example, lack of volition, decreasing enjoyment and self ascribed physiological and psychological addiction) can also be challenged in this way. In addition, emotions such as depression and anxiety which regularly accompany drug and alcohol use (and frequently act as triggers), can be addressed within cognitive therapy.

Another important feature of cognitive-behavioural therapy is the aim of increasing the patient’s expectation of improvement. Functional analysis of a patient’s symptoms or behaviour seeks to identify antecedents and consequences, and will generally reveal that the symptoms and/or behaviour vary according to different situations. This serves the purpose of drawing the patient’s attention to the low consistency and high distinctiveness of the situation (see explanation of causal attributions - chapter two), a feature the patient may not have been aware of previously. Therefore, by encouraging attributions of a more external, unstable and specific nature the therapist increases the expectation of improvement and in terms of the addictive problem moves the patient away from the “helpless addict” stereotype. The reader is reminded that in order to move through the stages of the Functional Discursive Model (i.e. towards recovery) the attributions an individual makes when explaining their substance use must change. Facilitating reattribution is the role of the therapist.

A cognitive model of addiction has a major advantage over other psychological models (for example behavioural or psychoanalytic) in terms of its problem solving approach. This is because such an approach has implications for long-term treatment outcome. According to Beck *et al* (1979) treating the symptoms of depression with medication alone without addressing the dysfunctional assumptions which underlie it, will not reduce



the patients vulnerability to further episodes of depression. Four studies reviewed by Blackburn and Davidson (1990) found better relapse rates for patients treated with cognitive therapy or combined cognitive therapy and medication, than medication alone. Because relapse is a very significant feature in the treatment of addictive problems (as shown by the 'cycling' of subjects between stages three and four of the Functional Discursive Model, and exit and re-entry in the Stages of Change Model), a treatment approach which can demonstrate an improvement in relapse rate over alternative therapies could have major implications for current treatment regimes. Comparisons could be made at this point between the maintenance of depressed patients on antidepressant medication (in the absence of cognitive therapy) and the maintenance of heroin addicts on prescribed methadone.

Examples of cognitive models which have been successfully integrated into cognitive-behavioural approach include Motivational Interviewing (Miller 1983) and Marlatt's Abstinence Violation Effect (Marlatt 1978; Marlatt and Gordon 1985). Motivational interviewing uses cognitive dissonance to heighten awareness of problem behaviour and facilitate the decision to effect a change in the behaviour. Cognitive dissonance combined with personal attributions form the basis of Marlatt's Abstinence Violation Effect, which seeks to explain the process of relapse. Marlatt's theory of relapse prevention is also based on attribution theory.

The current discussion has only touched upon the psychological treatment approach known as cognitive therapy. Nevertheless, despite the lack of operational detail, in principle it would not appear unreasonable to restate the earlier proposal which suggested that the application of the Functional Discursive Model in a clinical setting, could best be accomplished within cognitive (behavioural) treatment.

## **Summary**

The two models examined in this thesis are both 'process' models of addiction, comprising distinct stages. However they are each based on very different methods and philosophies.

The Functional Discursive Model is based on natural conversations with substance users, with the conceptual framework derived from the data. By



way of contrast the URICA questionnaire was devised to measure postulated stages of change.

The Functional Discursive Model employs a method which addresses the criticism that forced choice questionnaires often reflect the agenda of the researcher. In addition, the method cuts across issues of forced choice driven artefacts. The discursive model is less cued in this respect. However, the resulting disadvantage of this method is that it requires higher levels of training, to produce reliable coding, making the model more labour intensive, unlike the URICA which virtually scores itself.

The Functional Discursive Model makes no assumptions about the truth or falsity of verbal reports, the responses given being regarded as functional. The important features of discourse are assumed to lie in the *reasons* for what is said; and in that regard the Functional Discursive Model is based on a *performative* view of language. In contrast, the Stages of Change model can be described as *informative* because responses to direct questions are assumed to reflect accurately an individual's current internal state; as exemplified by the names given to each stage of the model. Consistency in verbal reports within the two models is thus based upon different philosophical assumptions; one based on context, the other based on internal state.

The results in general showed the Functional Discursive Model to be a more consistent measurement instrument compared with the URICA. Nevertheless, the URICA questionnaire does have obvious advantages over the interview method in an applied setting, namely its simplicity and convenience. However, an easy to administer questionnaire is of little value if it does not measure what it aims to measure. While this research does not question the validity and contribution made by the Transtheoretical Model in the field of addictive behaviours, the measurement instrument the model employs to determine an individual's stage of change would appear to have certain methodological limitations.

Finally, the contribution made by the Functional Discursive Model in this field is one which allows us to understand how certain forms of self-representation are self handicapping, in the sense that, from a



discursive viewpoint individuals with addiction problems imprison themselves with their own language. The model allows us to address this problem by offering a framework within which to effect the necessary discourse shift associated with recovery.



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## **Alcohol Use Disorders Identification Test (AUDIT)**

1. How often do you have a drink containing alcohol?

- |           |                     |                               |                               |                               |
|-----------|---------------------|-------------------------------|-------------------------------|-------------------------------|
| (0) Never | (1) Monthly or less | (2) Two or four times a month | (3) Two or three times a week | (4) Four or more times a week |
|-----------|---------------------|-------------------------------|-------------------------------|-------------------------------|

2. How many drinks containing alcohol do you have on a typical day when you are drinking?

- |            |            |            |            |                |
|------------|------------|------------|------------|----------------|
| (0) 1 or 2 | (1) 3 or 4 | (2) 5 or 6 | (3) 7 or 9 | (4) 10 or more |
|------------|------------|------------|------------|----------------|

3. How often do you have six or more drinks on one occasion?

- |           |                       |             |            |                           |
|-----------|-----------------------|-------------|------------|---------------------------|
| (0) Never | (1) less than monthly | (2) Monthly | (3) Weekly | (4) Daily or almost daily |
|-----------|-----------------------|-------------|------------|---------------------------|

4. How often during the last year have you found that you were not able to stop drinking once you had started?

- |           |                       |             |            |                           |
|-----------|-----------------------|-------------|------------|---------------------------|
| (0) Never | (1) less than monthly | (2) Monthly | (3) Weekly | (4) Daily or almost daily |
|-----------|-----------------------|-------------|------------|---------------------------|

5. How often during the last year have you failed to do what was normally expected from you because of drinking?

- |           |                       |             |            |                           |
|-----------|-----------------------|-------------|------------|---------------------------|
| (0) Never | (1) less than monthly | (2) Monthly | (3) Weekly | (4) Daily or almost daily |
|-----------|-----------------------|-------------|------------|---------------------------|

6. How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?

- |           |                       |             |            |                           |
|-----------|-----------------------|-------------|------------|---------------------------|
| (0) Never | (1) less than monthly | (2) Monthly | (3) Weekly | (4) Daily or almost daily |
|-----------|-----------------------|-------------|------------|---------------------------|

7. How often during the last year have you had a feeling of guilt or remorse after drinking?

- |           |                       |             |            |                           |
|-----------|-----------------------|-------------|------------|---------------------------|
| (0) Never | (1) less than monthly | (2) Monthly | (3) Weekly | (4) Daily or almost daily |
|-----------|-----------------------|-------------|------------|---------------------------|

8. How often during the last year have you been unable to remember what happened the night before because you had been drinking?

- |           |                       |             |            |                           |
|-----------|-----------------------|-------------|------------|---------------------------|
| (0) Never | (1) less than monthly | (2) Monthly | (3) Weekly | (4) Daily or almost daily |
|-----------|-----------------------|-------------|------------|---------------------------|

9. Have you or someone else been injured as a result of your drinking?

(0) No

(2) Yes, but not in the last year

(4) Yes, during the last year

10. Has a relative or friend or a doctor or other health worker, been concerned about your drinking or suggested you cut down?

(0) No

(2) Yes, but not in the last year

(4) Yes, during the last year



## **Brief MAST**

1. Do you feel you are a normal drinker?
2. Do friends and relatives think you are a normal drinker?
3. Have you ever attended a meeting of Alcoholics Anonymous?
4. Have you ever lost friends or girlfriends or boyfriends because of drinking?
5. Have you ever got into trouble at work because of drinking?
6. Have you ever neglected your obligations, your family or your work for two or more days in a row because you were drinking?
7. Have you ever had delirium tremens (DT's), severe shaking, heard voices or seen things that were not there after heavy drinking?
8. Have you ever gone to anyone for help about your drinking?
9. Have you ever been in hospital because of drinking?
10. Have you ever been arrested for drunken driving or driving after drinking?

## **Short-form alcohol dependence data questionnaire (SADD)**

1. Do you find difficulty in getting the thought of drink out of your mind?
2. Is getting drunk more important than your next meal?
3. Do you plan your day around when and where you can drink?
4. Do you drink in the morning, afternoon and evening?
5. Do you drink for the effect of alcohol without caring what the drink is?
6. Do you drink as much as you want irrespective of what you are doing the next day?
7. Given that many problem might be caused by alcohol do you still drink too much?
8. Do you know that you won't be able to stop drinking once you start?
9. Do you try to control your drinking by giving it up completely for days or weeks at a time?
10. The morning after a heavy session do you need your first drink to get yourself going?
11. The morning after a heavy session do you wake up with a definite shakiness of your hands?
12. After a heavy drinking session do you wake up and retch or vomit?
13. The morning after a heavy drinking session do you go out of your way to avoid people?
14. After a heavy drinking session do you see frightening things that later you realise were imaginary?
15. Do you go drinking and the next day find you have forgotten what happened the night before?

## Rosenberg's Self-esteem Inventory

**On the whole, I am satisfied with myself.**

strongly disagree      disagree      agree      strongly agree

**At times I think I am no good at all.**

strongly disagree      disagree      agree      strongly agree

**I feel that I have a number of good qualities.**

strongly disagree      disagree      agree      strongly agree

**I am able to do things as well as most other people.**

strongly disagree      disagree      agree      strongly agree

**I feel I do not have much to be proud of.**

strongly disagree      disagree      agree      strongly agree

**I certainly feel useless at times.**

strongly disagree      disagree      agree      strongly agree

**I feel that I am a person of worth, at least on an equal plane with others.**

strongly disagree      disagree      agree      strongly agree

**I wish I could have more respect for myself.**

strongly disagree      disagree      agree      strongly agree

**All in all, I am inclined to feel that I am a failure.**

strongly disagree      disagree      agree      strongly agree

**I take a positive attitude towards myself.**

strongly disagree      disagree      agree      strongly agree



## **APPENDICES FOR PILOT STUDY: TESTING URICA STATEMENTS (Chapter 10)**

1. 32 original URICA statements
2. 24 modified URICA statements
3. Introductory first page for questionnaire (can be found on p315)
4. Complete questionnaire

### **32 original URICA statements.**

#### **24 selected statements**

As far as I'm concerned, I don't have any problems that need changing.

I think I might be ready for some self improvement.

I am doing something about the problems that have been bothering me.

I am not the problem one. It doesn't make much sense for me to be here.

It worries me that I might slip back on a problem I have already changed, so I am here to seek help.

I am finally doing some work on my problem.

I've been thinking that I might want to change something about myself.

At times my problem is difficult, but I'm working on it.

I guess I have faults, but there's nothing that I really need to change.

I have a problem and I really think I should work on it.

Even though I'm not always successful in changing, I am at least working on my problem.

I thought once I had resolved the problem I would be free of it, but sometimes I still find myself struggling with it.

I wish I had more ideas on how to solve my problem.

Maybe this place will be able to help me.

I may need a boost right now to help me maintain the changes I have already made.

I may be part of the problem, but I don't really think I am.

I hope that someone here will have some good advice for me.

Anyone can talk about changing, I'm actually doing something about it.

All this talk about psychology is boring. Why can't people just forget about their problems?

I'm here to prevent myself from having a relapse of my problem.

It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved.

I have worries but so does the next guy. Why spend time thinking about them?

I am actively working on my problem.

After all I had done to try and change my problem, every now and then it comes back to haunt me.

#### 8 discarded statements

It might be worthwhile to work on my problem.

I have been successful in working on my problem but I'm not sure I can keep up the effort on my own.

Being here is pretty much a waste of time for me because the problem doesn't have to do with me.

I'm hoping this place will help me to better understand myself.

I am really working hard to change.

I'm not following through with what I had already changed as well as I had hoped, and I'm here to prevent a relapse of the problem.

I have started working on my problems but would like help.

I would rather cope with my faults than try to change them.



## **24 modified URICA statements**

**As far as I'm concerned, I don't need to change my alcohol use.**

**I think I might be ready for some self improvement.**

**I am doing something about the problems my alcohol use is causing me.**

**I don't have a problem with my alcohol use. It doesn't make much sense for me to seek treatment.**

**It worries me that I might slip back to my previous alcohol use, so I intend to seek help.**

**I am finally doing some work on changing my alcohol use.**

**I've been thinking that I might want to change something about myself.**

**At times my alcohol use is difficult, but I'm working on it.**

**I guess I have faults, but there's nothing that I really need to change.**

**I have a problem with alcohol and I really think I should work on it.**

**Even though I'm not always successful in changing, I am at least working on changing my alcohol use.**

**I thought once I had resolved my alcohol problem I would be free of it, but sometimes I still find myself struggling with it.**

**I wish I had more ideas on how to cope with my alcohol use.**

**Maybe treatment will be able to help me.**

**I may need some help right now to help me maintain the changes I have already made.**

**I may be part of the alcohol problem, but I don't really think I am.**

**I would like someone to give me some good advice.**

**Anyone can talk about changing, I'm actually doing something about it.**

**All this talk about psychology is boring. Why can't people just forget about their problems?**

**I'm trying to prevent myself from relapsing into alcohol use.**

It is frustrating, but I feel I might be having a recurrence of problem alcohol use which I thought I had resolved.

I have worries but so does the next guy. Why spend time thinking about them?

I am actively working on my alcohol use.

After all I had done to try and change my alcohol use, every now and then it comes back to haunt me.

Final version of the questionnaire used in the pilot study (chapter 10)

### Questionnaire

Please indicate the extent you agree or disagree with each of the following statements, by ticking, underlining or putting a circle around one of the five alternatives.

**As far as I'm concerned, I don't need to change my alcohol use.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I think I might be ready for some self improvement.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I am doing something about the problems my alcohol use is causing me.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I don't have a problem with my alcohol use. It doesn't make much sense for me to seek treatment.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------



**It worries me that I might slip back to my previous alcohol use, so I intend to seek help.**

strongly disagree      disagree      undecided      agree      strongly agree

**I am finally doing some work on changing my alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree

**I've been thinking that I might want to change something about myself.**

strongly disagree      disagree      undecided      agree      strongly agree

**At times my alcohol use is difficult, but I'm working on it.**

strongly disagree      disagree      undecided      agree      strongly agree

**I guess I have faults, but there's nothing that I really need to change.**

strongly disagree      disagree      undecided      agree      strongly agree

**I have a problem with alcohol and I really think I should work on it.**

strongly disagree      disagree      undecided      agree      strongly agree

**Even though I'm not always successful in changing, I am at least working on changing my alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree

**I thought once I had resolved my alcohol problem I would be free of it, but sometimes I still find myself struggling with it.**

strongly disagree      disagree      undecided      agree      strongly agree

**I wish I had more ideas on how to cope with my alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree

**Maybe treatment will be able to help me.**

strongly disagree      disagree      undecided      agree      strongly agree

**I may need some help right now to help me maintain the changes I have already made.**

strongly disagree      disagree      undecided      agree      strongly agree

**I may be part of the alcohol problem, but I don't really think I am.**

strongly disagree      disagree      undecided      agree      strongly agree

**I would like someone to give me some good advice.**

strongly disagree      disagree      undecided      agree      strongly agree

**Anyone can talk about changing, I'm actually doing something about it.**

strongly disagree      disagree      undecided      agree      strongly agree

**All this talk about psychology is boring. Why can't people just forget about their problems?**

strongly disagree      disagree      undecided      agree      strongly agree

**I'm trying to prevent myself from relapsing into alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree



**It is frustrating, but I feel I might be having a recurrence of problem alcohol use which I thought I had resolved.**

strongly disagree      disagree      undecided      agree      strongly agree

**I have worries but so does the next guy. Why spend time thinking about them?**

strongly disagree      disagree      undecided      agree      strongly agree

**I am actively working on my alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree

**After all I had done to try and change my alcohol use, every now and then it comes back to haunt me.**

strongly disagree      disagree      undecided      agree      strongly agree

**Are you male or female:**      female      male

**Age:**      \_\_\_\_\_      years old

**Marital status:** single    married    divorced    separated    cohabiting  
widowed

**Employment status:** student    unemployed    part-time    full-time

**What alcoholic drinks do you buy when in a pub/club/disco etc.:**

\_\_\_\_\_

\_\_\_\_\_

**What alcoholic drinks do you prefer when drinking at home:**

\_\_\_\_\_

\_\_\_\_\_





**I think I might be ready for some self improvement.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I am doing something about the problems that have been bothering me.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I am not the problem one. It doesn't make much sense for me to be here.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**It worries me that I might slip back on a problem I have already changed, so I am here to seek help.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I am finally doing some work on my problem.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I've been thinking that I might want to change something about myself.**

strongly strongly disagree	disagree	undecided	agree	agree
----------------------------------	----------	-----------	-------	-------

**At times my problem is difficult, but I'm working on it.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I guess I have faults, but there's nothing that I really need to change.**

strongly disagree	disagree	undecided	agree	strongly agree
----------------------	----------	-----------	-------	-------------------

**I have a problem and I really think I should work on it.**

strongly disagree      disagree      undecided      agree      strongly agree

**Even though I'm not always successful in changing, I am at least working on my problem.**

strongly disagree      disagree      undecided      agree      strongly agree

**I thought once I had resolved the problem I would be free of it, but sometimes I still find myself struggling with it.**

strongly disagree      disagree      undecided      agree      strongly agree

**I wish I had more ideas on how to solve my problem.**

strongly disagree      disagree      undecided      agree      strongly agree

**Maybe this place will be able to help me.**

strongly disagree      disagree      undecided      agree      strongly agree

**I may need a boost right now to help me maintain the changes I have already made.**

strongly disagree      disagree      undecided      agree      strongly agree

**I may be part of the problem, but I don't really think I am.**

strongly disagree      disagree      undecided      agree      strongly agree

**I hope that someone here will have some good advice for me.**

strongly disagree      disagree      undecided      agree      strongly agree



**Anyone can talk about changing, I'm actually doing something about it.**

strongly disagree      disagree      undecided      agree      strongly agree

**All this talk about psychology is boring. Why can't people just forget about their problems?**

strongly disagree      disagree      undecided      agree      strongly agree

**I'm here to prevent myself from having a relapse of my problem.**

strongly disagree      disagree      undecided      agree      strongly agree

**It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved.**

strongly disagree      disagree      undecided      agree      strongly agree

**I have worries but so does the next guy. Why spend time thinking about them?**

strongly disagree      disagree      undecided      agree      strongly agree

**I am actively working on my problem.**

strongly disagree      disagree      undecided      agree      strongly agree

**After all I had done to try and change my problem, every now and then it comes back to haunt me.**

strongly disagree      disagree      undecided      agree      strongly agree

Factor Loadings for Factor Analyses reported in chapter 10

Question items 1 - 24 from original URICA questionnaire:

**Rotated Component Matrix**

	Component		
	1	2	3
question 1 original	-.453	-.336	.428
Q20	.537	.519	-.327
Q30	.914	.141	-.139
Q40	-.111	-.344	.444
Q50	.682	.497	-.161
Q60	.843	.348	-.174
Q70	.508	.650	-.201
Q80	.743	.567	-.124
Q90	-.352	-.422	.512
Q100	.530	.700	-.257
Q110	.790	.444	-5.93E-02
Q120	.498	.775	2.930E-03
Q130	.399	.747	-.128
Q140	.712	.507	-.116
Q150	.490	.668	-.198
Q160	-.195	.232	.747
Q170	.605	.581	-.151
Q180	.786	.384	-2.07E-02
Q190	-.164	-7.56E-02	.746
Q200	.706	.543	-6.23E-02
Q210	.276	.797	-4.21E-02
Q220	.206	-.125	.709
Q230	.813	.395	-.159
Q240	.329	.846	-6.86E-02

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.



Question items 1 - 24 from modified URICA questionnaire:

Rotated Component Matrix

	Component		
	1	2	3
question 1 modified	-.624	-.200	.286
Q2M	.608	.574	-7.20E-02
Q3M	.892	.119	-.168
Q4M	-.755	-.361	.271
Q5M	.857	.117	-.160
Q6M	.896	.155	-.148
Q7M	.598	.528	-.105
Q8M	.855	.232	-.177
Q9M	-.467	-.255	.642
Q10M	.872	.198	-.292
Q11M	.861	.244	-6.26E-02
Q12M	.851	.224	-.165
Q13M	.792	.249	-9.03E-02
Q14M	.842	.220	-.252
Q15M	.828	.265	-.179
Q16M	-6.84E-03	-9.67E-02	.885
Q17M	.769	.423	1.699E-04
Q18M	.787	.287	2.552E-03
Q19M	-.185	-.862	3.129E-02
Q20M	.843	.205	-1.22E-02
Q21M	.783	.103	.109
Q22M	-6.44E-02	-.800	.247
Q23M	.812	.206	-.175
Q24M	.857	4.211E-02	-9.22E-02

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

**Examples of letters used in the recruitment and follow-up of subjects**



## **STUDY ON DRINKING BEHAVIOUR**

**I am a postgraduate research worker based at Strathclyde University's Addiction Research Unit, and am beginning a long term research project into alcohol use.**

**The purpose of the study is to find out more about drinking behaviour, as such information is important in the development of successful treatment programmes and services.**

**I need people to fill in a preliminary questionnaire which will provide information necessary to plan the research programme.**

**I would be very grateful if you could spare 10 minutes to fill in this questionnaire, your participation will be totally confidential and anonymous.**

**Thank you  
April Quigley**

24.4.96

tel.:

Dear Elaine,

The DART team have informed me that you would be willing to participate in a study I am conducting into drinking behaviour in the Borders.

I will visit you on Monday 29th April at 10am.

However should this date or time not be convenient could you let me know by returning the slip below in the stamped addressed envelope. Or if you prefer you can phone me on the above number.

Yours sincerely,

.....  
.

From: Elaine

It would be convenient for me to see you on:  
*(please tick one)*

Tuesday 30th April at 2pm

Wednesday 1st May at 10am

Wednesday 1st May at 2pm

Thursday 2nd May at 10am

Thursday 2nd May at 2pm

Friday 3rd May at 10am



26th February 1996

Tel:

Dear Tracy,

Thank you for agreeing to participate in my study on alcohol use. Following our telephone conversation the other day, I would just like to confirm I will visit you on Wednesday 28th February at 1pm. I look forward to meeting you then.

Yours sincerely,

34 Kilknowe Place,  
Galashiels TD1 1RH  
(01896 ..... )

Dear John,

A little over six months ago you were approached on my behalf by the Borders Council for Alcohol. And you agreed to participate in a research study looking at alcohol use in the Borders.

I met with you at the Health Centre. And if you remember I needed to speak to you again 6 months later to see how things have been since then.

I was wondering therefore if I could meet with you again for the follow-up, which need only take 15 minutes of your time.

Shirley at the BCA has booked a room at Hawick Health Centre for 10.30am on Tuesday 29th October. If this is not convenient for you could you phone Shirley (01896 757657) or if you prefer you can phone me on the Galashiels number above.

Thank you very much for your participation in this research, I look forward to seeing you again.

Yours sincerely

P.S. Could I stress that it is very important for the research that I do see you again.



**Complete version of questionnaire used in main PhD study (i.e. three questionnaires combined)**

Please indicate the extent you agree or disagree with each of the following statements, by ticking, underlining or putting a circle around one of the alternatives.

**On the whole, I am satisfied with myself.**

strongly disagree	disagree	agree	strongly agree
----------------------	----------	-------	-------------------

**At times I think I am no good at all.**

strongly disagree	disagree	agree	strongly agree
----------------------	----------	-------	-------------------

**I feel that I have a number of good qualities.**

strongly disagree	disagree	agree	strongly agree
----------------------	----------	-------	-------------------

**I am able to do things as well as most other people.**

strongly disagree	disagree	agree	strongly agree
----------------------	----------	-------	-------------------

**I feel I do not have much to be proud of.**

strongly disagree	disagree	agree	strongly agree
----------------------	----------	-------	-------------------

**I certainly feel useless at times.**

strongly disagree	disagree	agree	strongly agree
----------------------	----------	-------	-------------------

**I feel that I am a person of worth, at least on an equal plane with others.**

strongly disagree	disagree	agree	strongly agree
----------------------	----------	-------	-------------------

**I wish I could have more respect for myself.**

strongly disagree	disagree	agree	strongly agree
----------------------	----------	-------	-------------------



**All in all, I am inclined to feel that I am a failure.**

strongly disagree      disagree      agree      strongly agree

**I take a positive attitude towards myself.**

strongly disagree      disagree      agree      strongly agree

**How often do you have a drink containing alcohol?**

never      monthly or less      two to four times a month      two to three times a week      four or more times a week

**How many drinks containing alcohol do you have on a typical day when you are drinking?**

1 or 2      3 or 4      5 or 6      7 to 9      10 or more

**How often do you have six or more drinks on one occasion?**

never      less than monthly      monthly      weekly      daily or almost daily

**How often during the last year have you found that you were not able to stop drinking once you had started?**

never      less than monthly      monthly      weekly      daily or almost daily

**How often during the last year have you failed to do what was normally expected of you because of drinking?**

never      less than monthly      monthly      weekly      daily or almost daily

**How often during the last year have you needed a first drink in the morning to get yourself going after a heavy drinking session?**

never      less than monthly      monthly      weekly      daily or almost daily

**How often during the last year have you had a feeling of guilt or remorse after drinking?**

never                      less than monthly                      monthly                      weekly                      daily or almost daily

**How often during the last year have you been unable to remember what happened the night before because you had been drinking?**

never                      less than monthly                      monthly                      weekly                      daily or almost daily

**Have you or someone else been injured as a result of your drinking?**

no year                      yes, but not in the last year                      yes, during the last year

**Has a relative or friend or a doctor or other health worker, been concerned about your drinking or suggested you cut down?**

no year                      yes, but not in the last year                      yes, during the last year

**As far as I'm concerned, I don't need to change my alcohol use.**

strongly disagree                      disagree                      undecided                      agree                      strongly agree

**I think I might be ready for some self improvement.**

strongly disagree                      disagree                      undecided                      agree                      strongly agree

**I am doing something about the problems my alcohol use is causing me.**

strongly disagree                      disagree                      undecided                      agree                      strongly agree

**I don't have a problem with my alcohol use. It doesn't make much sense for me to seek treatment.**

strongly disagree                      disagree                      undecided                      agree                      strongly agree



**It worries me that I might slip back to my previous alcohol use, so I intend to seek help.**

strongly disagree      disagree      undecided      agree      strongly agree

**I am finally doing some work on changing my alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree

**I've been thinking that I might want to change something about myself.**

strongly disagree      disagree      undecided      agree      strongly agree

**At times my alcohol use is difficult, but I'm working on it.**

strongly disagree      disagree      undecided      agree      strongly agree

**I guess I have faults, but there's nothing that I really need to change.**

strongly disagree      disagree      undecided      agree      strongly agree

**I have a problem with alcohol and I really think I should work on it.**

strongly disagree      disagree      undecided      agree      strongly agree

**Even though I'm not always successful in changing, I am at least working on changing my alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree

**I thought once I had resolved my alcohol problem I would be free of it, but sometimes I still find myself struggling with it.**

strongly disagree      disagree      undecided      agree      strongly agree

**I wish I had more ideas on how to cope with my alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree

**Maybe treatment will be able to help me.**

strongly disagree      disagree      undecided      agree      strongly agree

**I may need some help right now to help me maintain the changes I have already made.**

strongly disagree      disagree      undecided      agree      strongly agree

**I may be part of the alcohol problem, but I don't really think I am.**

strongly disagree      disagree      undecided      agree      strongly agree

**I would like someone to give me some good advice.**

strongly disagree      disagree      undecided      agree      strongly agree

**Anyone can talk about changing, I'm actually doing something about it.**

strongly disagree      disagree      undecided      agree      strongly agree

**All this talk about psychology is boring. Why can't people just forget about their problems?**

strongly disagree      disagree      undecided      agree      strongly agree

**I'm trying to prevent myself from relapsing into alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree



**It is frustrating, but I feel I might be having a recurrence of problem alcohol use which I thought I had resolved.**

strongly disagree      disagree      undecided      agree      strongly agree

**I have worries but so does the next guy. Why spend time thinking about them?**

strongly disagree      disagree      undecided      agree      strongly agree

**I am actively working on my alcohol use.**

strongly disagree      disagree      undecided      agree      strongly agree

**After all I had done to try and change my alcohol use, every now and then it comes back to haunt me.**

strongly disagree      disagree      undecided      agree      strongly agree

### Abstinence and AUDIT scores at time 1

Y Intervals	X Categories		(1) f	(2) y'	(3) fy'	(4) fy' <sup>2</sup>	(5) $\Sigma x'.y'$	(6) y' $\Sigma x'.y'$
	f <sub>0</sub>	f <sub>1</sub>						
37-40	0	1	1	9	9	81	1	9
31-36	2	6	8	8	64	512	6	48
29-32	1	1	2	7	14	98	1	7
25-28	0	0	0	6	0	0	0	0
19-24	0	8	8	5	40	200	8	40
17-20	1	10	11	4	44	176	10	40
13-16	3	6	9	3	27	81	6	18
9-12	2	3	5	2	10	20	3	6
5-8	7	0	7	1	7	7	0	0
0-4	9	1	10	0	0	0	1	0
(1) f	25	36	61		215	1175	36	168
(2) x'	0	1						
(3) fx'	0	36	36					
(4) fx' <sup>2</sup>	0	36	36					
(5) $\Sigma y'.x'$	47	168	215					
(6) x' $\Sigma y'.x'$	0	168	168					

### Abstinence and AUDIT at time 2

Y Intervals	X Categories		(1) f	(2) y'	(3) fy'	(4) fy' <sup>2</sup>	(5) $\Sigma x'.y'$	(6) y' $\Sigma x'.y'$
	f <sub>0</sub>	f <sub>1</sub>						
37-40	0	1	1	9	9	81	1	9
31-36	2	6	8	8	64	512	6	48
29-32	1	1	2	7	14	98	1	7
25-28	0	0	0	6	0	0	0	0
19-24	0	8	8	5	40	200	8	40
17-20	1	10	11	4	44	176	10	40
13-16	3	6	9	3	27	81	6	18
9-12	2	3	5	2	10	20	3	6
5-8	7	0	7	1	7	7	0	0
0-4	9	1	10	0	0	0	1	0
(1) f	25	36	61		215	1175	36	168
(2) x'	0	1						
(3) fx'	0	36	36					
(4) fx' <sup>2</sup>	0	36	36					
(5) $\Sigma y'.x'$	47	168	215					
(6) x' $\Sigma y'.x'$	0	168	168					



The Point Biserial Coefficient Correlation:

$$\frac{\sum x'y' - \frac{(\sum x')(\sum y')}{n}}{\sqrt{(\sum x'^2 - \frac{(\sum x')^2}{n})(\sum y'^2 - \frac{(\sum y')^2}{n})}}$$

Abstinence and AUDIT at time 1:

$$r = \frac{168 - \frac{(36)(215)}{61}}{\sqrt{(36 - \frac{(36)^2}{61})(1175 - \frac{(215)^2}{61})}}$$

$$r = \frac{41.12}{\sqrt{(14.76)(417.21)}}$$

$$r = .524$$

Abstinence and AUDIT at time 2:

$$r = \frac{142 - \frac{(38)(155)}{55}}{\sqrt{(38 - \frac{(38)^2}{55})(743 - \frac{(155)^2}{55})}}$$

$$r = \frac{34.91}{\sqrt{(11.75)(310.19)}}$$

$$r = .578$$

### Agency contact and AUDIT scores at time 1

Y Intervals	X Categories		(1) f	(2) y'	(3) fy'	(4) fy' <sup>2</sup>	(5) $\Sigma x'.y'$	(6) y' $\Sigma x'.y'$
	f <sub>0</sub>	f <sub>1</sub>						
37-40	0	1	1	9	9	81	1	9
31-36	2	6	8	8	64	512	6	48
29-32	1	1	2	7	14	98	1	7
25-28	0	0	0	6	0	0	0	0
19-24	0	8	8	5	40	200	8	40
17-20	1	10	11	4	44	176	10	40
13-16	3	6	9	3	27	81	6	18
9-12	2	3	5	2	10	20	3	6
5-8	7	0	7	1	7	7	0	0
0-4	9	1	10	0	0	0	1	0
(1) f	25	36	61		215	1175	36	168
(2) x'	0	1						
(3) fx'	0	36	36					
(4) fx' <sup>2</sup>	0	36	36					
(5) $\Sigma y'.x'$	47	168	215					
(6) x' $\Sigma y'.x'$	0	168	168					

### Agency contact and AUDIT at time 2

Y Intervals	X Categories		(1) f	(2) y'	(3) fy'	(4) fy' <sup>2</sup>	(5) $\Sigma x'.y'$	(6) y' $\Sigma x'.y'$
	f <sub>0</sub>	f <sub>1</sub>						
37-40	0	1	1	9	9	81	1	9
31-36	2	6	8	8	64	512	6	48
29-32	1	1	2	7	14	98	1	7
25-28	0	0	0	6	0	0	0	0
19-24	0	8	8	5	40	200	8	40
17-20	1	10	11	4	44	176	10	40
13-16	3	6	9	3	27	81	6	18
9-12	2	3	5	2	10	20	3	6
5-8	7	0	7	1	7	7	0	0
0-4	9	1	10	0	0	0	1	0
(1) f	25	36	61		215	1175	36	168
(2) x'	0	1						
(3) fx'	0	36	36					
(4) fx' <sup>2</sup>	0	36	36					
(5) $\Sigma y'.x'$	47	168	215					
(6) x' $\Sigma y'.x'$	0	168	168					



The Point Biserial Coefficient Correlation:

$$\frac{\sum x'y' - \frac{(\sum x')(\sum y')}{n}}{\sqrt{(\sum x'^2 - \frac{(\sum x')^2}{n})(\sum y'^2 - \frac{(\sum y')^2}{n})}}$$

Agency contact and AUDIT at time 1:

$$r = \frac{95 - \frac{(35)(215)}{61}}{\sqrt{(35 - \frac{(35)^2}{61})(1165 - \frac{(215)^2}{61})}}$$

$$r = \frac{-28.36}{\sqrt{(14.92)(407.22)}}$$

$$r = -.363$$

Agency contact and AUDIT at time 2:

$$r = \frac{40 - \frac{(15)(143)}{40}}{\sqrt{(15 - \frac{(15)^2}{40})(691 - \frac{(143)^2}{40})}}$$

$$r = \frac{-13.62}{\sqrt{(9.38)(179.78)}}$$

$$r = -.331$$

Chi-Square analyses (a) abstinence and Discursive stage (b) abstinence and URICA stage.

Chi-Square analysis for discursive stage position and abstinence at time 1

		Abstinent or not		
		yes	no	total
Discourse stage	1		9	9
	2	2	11	13
	3	18	4	22
	4	5	7	12
	5		4	4
Total		25	35	60

		Asymp. Sig. (2-sided)		
		Value	df	
Pearson Chi-Square		27.572	4	.000
Likelihood Ratio		33.178	4	.000
Linear-by-Linear Association		3.103	1	.078
N of Valid Cases		60		

Chi-Square analysis for discursive stage position and abstinence at time 2

		Abstinent or not		
		yes	no	total
Discourse stage	1		11	11
	2		10	10
	3	15	2	17
	4	2	10	12
	5		5	5
Total		17	38	55

		Asymp. Sig. (2-sided)		
		Value	df	
Pearson Chi-Square		38.932	4	.000
Likelihood Ratio		44.892	4	.000
Linear-by-Linear Association		1.415	1	.234
N of Valid Cases		55		



**Chi-Square analysis for discursive stage position 1-3 and abstinence at time 1**

		Abstinent or not		total
		yes	no	
Discourse stage	1		9	9
	2	2	11	13
	3	18	4	22
Total		20	24	44

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	23.974	2	.000
Likelihood Ratio	28.608	2	.000
Linear-by-Linear Association	21.217	1	.000
N of Valid Cases	44		

**Chi-Square analysis for discursive stage position 1 - 3 and abstinence at time 2**

		Abstinent or not		total
		yes	no	
Discourse stage	1		11	11
	2		10	10
	3	15	2	17
Total		15	23	38

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.614	2	.000
Likelihood Ratio	38.667	2	.000
Linear-by-Linear Association	24.037	1	.000
N of Valid Cases	38		

**Chi-Square analysis for discursive stage position 3 - 5 and abstinence  
at time 1**

		Abstinent or not		
		yes	no	total
Discourse	3	18	4	22
stage	4	5	7	12
	5		4	4
Total		23	15	38

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12.094	2	.002
Likelihood Ratio	13.82	2	.001
Linear-by-Linear Association	11.774	1	.001
N of Valid Cases	38		

**Chi-Square analysis for discursive stage position 3 - 5 and abstinence  
at time 2**

		Abstinent or not		
		yes	no	total
Discourse	3	15	2	17
stage	4	2	10	12
	5		5	5
Total		17	17	34

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	20.275	2	.000
Likelihood Ratio	24.005	2	.000
Linear-by-Linear Association	17.702	1	.000
N of Valid Cases	34		



Chi-Square analysis for URICA stage position and abstinence at time 1

		Abstinent or not		
		yes	no	total
URICA stage	pre		6	6
	con	1	10	11
	act	15	15	30
	main	9	5	14
Total		25	36	61

		Asymp. Sig.		
		Value	df	(2-sided)
Pearson Chi-Square		12.944	3	.005
Likelihood Ratio		16.029	3	.001
Linear-by-Linear Association		11.654	1	.001
Contingency Coefficient		0.418		.005
N of Valid Cases		61		

Chi-Square analysis for URICA stage position and abstinence at time 2

		Abstinent or not		
		yes	no	total
URICA stage	pre		12	12
	con	1	4	5
	act	9	15	24
	main	7	7	14
Total		17	38	55

		Asymp. Sig.		
		Value	df	(2-sided)
Pearson Chi-Square		8.525	3	.036
Likelihood Ratio		11.854	3	.008
Linear-by-Linear Association		8.268	1	.004
Contingency Coefficient		0.366		.036
N of Valid Cases		55		

**Examples of transcribed interviews**



**Stage one transcript, no agency contact.**

**Subject 19.**

I: Can you tell me about your drinking?

S: Usually weekends, drink the most on Saturdays, cos it will be all day and night, although I suppose it starts on the Friday nights. I usually spend about £80 on a Saturday night. If I've not got that amount of money I don't like going out, and sometimes don't.

I: Why?

S: Because if I can't drink that much and get totally wrecked I don't see the point. I prefer to go out with more money and drink alot and have a good time, than go out with £20 and have to go home early.

Some of my mates will say are you coming out for a couple, but you know as soon as you go out for a couple then thats you out all night, so I try and no do it if I haven't got the money. On a Friday afternoon when we finish work we usually go to the pub for a couple, but then I go home and get changed for later. Usually I'll have a carry-out in the house first and then most times when I get in, like usually some mates will come back with me, have a few more cans. I always start off on a few cans then pints, at some point I'll switch to nips though so you can drink more, then back on the cans again when we get back in.

I: Do you enjoy drinking then?

S: Oh aye, thats why I do it, I enjoy it more now than I used to.....

I: Why is that?

S: Cos I can handle it better now, I know whats going to happen to us, but before when I was younger I didn't know quite what to do how to act and that. And at home too my stepdad looked down on it..... but now its more relaxed. I mean I can't usually remember whats went on by the end of the night, but I know I've enjoyed myself. And like now if I've had a really heavy all day session and I've got a really bad hangover then I don't go out for

more, especially if it was a really good night. If I'm in a bad state and its not late I might go home now, 'cos there's always the next day.

I: Do you feel in control?

S: Oh definitely, well I'm in debt after Christmas, I sort of went overboard and I had a credit card and I got my credit extended, so I spent £350 just over Christmas in the pubs..... on drink alone. So I've just taken a job behind the bar in Bidi's to pay it off, so I'll not be drinking as much for a while.

I: Apart from financially has drinking ever effected you in any other ways?

S: No I don't think so, I tend to choose girlfriends that like drinking as much as me. There was one girl that said I drank too much so I didn't see her for very long.



**Stage two transcript, no agency contact.**

**Subject 43: 2nd interview.**

**I: Can you tell me about your drinking now?**

**S: It can't be less, if not more, especially in the last couple of months with the students being back, there's more going on, more things happening.**

**I: So would you say your drinking is still dictated by what's happening socially?**

**S: Definitely, I very rarely drink at home, I'm a party animal.**

**I: How many nights do you go out?**

**S: Thursday, Friday, Saturday and Sunday. Saturday all day. But since the students have been back I often go to the Union on a Monday night.**

**I: How do you afford it?**

**S: I don't know..... a bit of wheeling and dealing. I always take a quarter bottle in my pocket.**

**And drink's cheaper in the Union and I get in free 'cos I did that show a few weeks ago. It's good being around new people, down the street everybody knows me that well..... they're all sick of hearing my jokes. The Union when the new students start, it's like a new audience.**

**I'm trying to get on the governments Enterprise Scheme, you know the £40 a week thing, as a self employed entertainer. It's really 'cos I'm getting hassle from the dole to get a job. But it should be quite good..... mixing work with my social life. And half my thoughts come when I'm drunk, that's when I get my best ideas. I can get a train of thought, it's not easy to sit when you're sober in the house thinking up funny things. But if you're in a funny atmosphere you think yes that's good, and you get feedback of other people. If I've got leads to go on and I write them down that night I can add things when I'm sober.....**

**I: Do you get any hassle off your parents over your drinking?**

**S:** No, they're pretty cool, they let me get on with it. Obviously they don't know how much I drink, and because I'm loud and cheeky when I'm sober, they wouldn't notice.....I don't remember most of the time anyway.

**I:** Is your memory still bad?

**S:** Oh my memory's atrocious, really is it's bad. I reckon over a week, 7 days, of my conscious hours I only remember 25% of them.....and that's a sober week! no I'm never sober a week. Like when I did that show two friends filmed the whole day, leading up to the show. And then the night as well. And when I saw the video, it was like I couldn't remember most of it, until I saw the video. Yes my memory's bad. I know that's the drink. But I do remember important things.

**I:** Are you drinking more now than when you worked abroad?

**S:** No that would be impossible, it was constant in Corfu and it was free most of the time. I couldn't have kept that up anyway.

**I:** Why?

**S:** Well health reasons I suppose.....which as you can see I'm really concerned about!! I've found a way round that, I went to the chemist last week and I got this tinted moisturiser cream which I carry about religiously, to give me a bit of colour when I'm looking washed out!

But if I had a proper job, a responsible managerial job I wouldn't be out all the time. If I had a girlfriend I could stay in more and watch videos maybe have a bottle of wine.

A lot of it's that I can't be bothered being around people that are pissed if I'm not, so that's not an excuse but one reason why I do like a drink, being on the same wavelength.

**I:** How much control have you got?

**S:** Well very little I suppose once I'm out, but it depends what's happening, what's going on. I just go with the flow.



**I: Do you worry about your drinking?**

**S: No not at the moment..... I know I'm drinking far far too much. And smoking, but I think eventually when I'm roughly 30, 33, 35 it will be time to calm down. But it depends what's happening in my life. I'm quite happy the now. Especially if I get this project off the ground, also as I get more confidence in doing it, I wont have to drink as much to do the show. The now I'm drinking to combat nerves and to get things going. But in time I should be able to walk on and do it anywhere sober, that's the theory anyway.**

**I: Are you addicted to alcohol?**

**S: No..... I'm addicted to cigarettes.**

**I: So what makes you say you're addicted to cigarettes how is that different to your use of alcohol?**

**S: Because I feel a physical need for nicotine, with alcohol I want to drink. And just because it makes things better, more enjoyable and I drink alot that doesn't mean I'm addicted to it. I know I said I use it to give me confidence before a show, but that's just using it as a crutch in certain situations. I can't go a day without cigarettes but I can go for as long as I choose without alcohol, I only drink in social places. But because I'm in those places most days of the week then I drink most days of the week. But today for example when you met me in Bidi's I was drinking a cup of coffee, that's because it's Wednesday and I don't usually go out drinking on a Wednesday, unless something special was on.**

**Stage two transcript, BCA contact.**

**Subject 26.**

**I: Can you tell me about your drinking?**

**S: Well lately I've been told I'm drinking more than I should, but then I don't know because I've always drank with my meals, my doctor seems to think so anyway. A bottle of wine every night, sometimes aperitif before hand and then possibly end up with liquors at the end. But I enjoy cooking and good food, I live by myself, but I cook every evening, or eat out and the wine is very important. I have a girlfriend and she like me, likes good eating and wines..... 6 o'clock every evening I switch off the phone, television etc. and go through to the kitchen, open a bottle of wine and drink a glass as I start to prepare the food, somethings take longer than others so sometimes I've topped up my glass a couple of times and so when it comes to sitting down to eat I need to open another bottle. I enjoy it very much, by far the nicest time of the day....er you know after the pressures of running a business, its a chance to unwind. You can't beat good food, good wine and good company. Most nights I eat with my girlfriend either at my place or we go out. I like eating in fine restaurants, money is not really a problem now, and at my time of life well its what I get most pleasure from..... Its very relaxing, I think most people used alcohol as a form of relaxation, sometimes I even start at 5.30 it depends when I am cooking.**

**I: So how did you come to be in contact with the BCA?**

**S: My doctor suggested it, I've got high blood pressure and I'm a little overweight, he wants me to lose some weight. I find it very difficult to diet and of course the drink doesn't help that either. I will be retiring soon so alot of the business pressures will go, which should help the blood pressure abit. But then I will also have more time for doing the things that I like, which is not going to please my doctor.**

**I: Do you feel you drink too much?**



**S:** Oh I don't know, I enjoy drinking very much I don't want to stop, but my doctor seems to feel its effecting my health, so I don't know, I agreed with him that I need to lose some weight.....

Some times I drink more than others.....like if the service is slow in the restaurant well then we would order another bottle, but I'm trying to cut out the liquors.....

I've had to give up the liquors because of the amount of sugar they contain. I drink Campari and soda now, and always dry wine now. I'm trying this special diet, the Heart Foundation diet, but I don't know if it will work' I find it really hard to diet. I have managed to lose weight before, I lost 2 stone once. But eating and drinking go very much together for me, and I don't really want to cut out either. I don't think a drink every evening is excessive, look at the amount of wine they consume in France. But saying all that as much as I like drinking in the evenings, if I was staying in a hotel and I passed the bar the following morning for breakfast the smell of drink....oh the smell of drink, I hate the smell of drink then, I could never face a drink of a morning.

**I:** Do you feel in control of your drinking?

**S:** I used to be, maybe less so recently, but I don't see why I should give up something that I enjoy.

**Stage three transcript, BCA contact.**

**Subject 50.**

**I: Can you tell me about your drinking?**

**S: Well I haven't had a drink since about August. It doesn't really bother me until we have an argument, and its when I'm left on my own. I get lonely. I'm alright if I've got somewhere to go. But when I hit the bottle that me on a binge for days or weeks.**

**I: Why?**

**S: Cos I can't stop once I start, I don't want to stop once I start. I don't enjoy it I never have, but its just when something happens it sets me off and I can't stop. I know I'm an alcoholic so I have to stay away from it. Its when things annoy me, things in the papers annoy me, I'm not saying just because there's some injustice on the telly I'll go and get blitered, but things annoy me and you can't do anything about it.**

**But its usually when she buggers off and leaves me, goes to her sisters or something and when I've got money in my pocket. I go on a bender, and everyone knows when I'm on the drink. John's away again, singing in the street, drinking in the bus shelters when you've been chucked out of the pubs. But once I start I can't stop 'cos I don't sober up.**

**I: Why?**

**S: You mean why I don't sober up.....'cos I don't want too, 'cos when you're drunk you want to stay drunk, who wants to feel ill coming off it.**

**I: Are you in control of your drinking?**

**S: I am if I don't drink, I think I am just now I've got the control to stay away from it, I've not drank for months now. I have to stay away from it 'cos of the liver damage, if I stay away from it my liver might recover. I was told it was severely damaged, but I've been off the drink 6 months or so, so it should be a bit better now.**

**I: Are you addicted to alcohol?**



S: Yes I am aye. I know I'm an alcoholic 'cos I can't stop once I start, so the answer to that is don't start. I think I'm doing alright the now, as long as me and the misses don't fall out. But you can't look ahead and think you're never going to drink again that's too depressing, I try not to think about it at all. Just speaking to you about drink..... I can taste it in my mouth. But I think I've got enough willpower to stay away from it the now, I've learnt the hard way, yes I've spent alot of my life in pubs getting drunk, and I've enjoyed the pub life having a good time and all that, but well my health's suffering for it now, so I cannie do it anymore.

**Stage three transcript, AA contact.**

**Subject 9: 2nd interview.**

I: Are you still abstinent?

S: Yes, I've been sober for 4 years past June.

I: How difficult is it?

S: Well it's getting easier, but I still miss it. I try to make 2 meetings a week, sometimes it's just one. You find your own level, when you first come into the AA you fit in as many meetings as you can, everyday really. But then later you find your own level. Some people go to one meeting a week, some need 4 or 5, I know people who still need a meeting everyday.

But aye I think it's getting easier now, the other day coming back in the van with Stevie, I said to him I could murder a pint.....but I think it was just because my mouth was dry, it was warm in the van, I think it was just for a cool drink basically. There is times I would like to go out on a Saturday night and have a couple of drinks, but I know I can't, so it's end of story really.

I: Will you ever drink again?

S: No, there's no way I can, absolutely not. We still get our ups and downs the same as anybody, but I feel I can cope with these things now, before I'd hid in the drink. You have to learn to accept things, this is the thing about the AA, you learn to accept things. See I believe now that I don't have to drink, the only thing that can make me drink is inside my head. Circumstances, people, that sort of thing, no. It comes from inside my head. I'm no that complacent that I would say I would never drink again, it could happen.....it could happen today. Take it one day at a time, and not picking up that first drink.

I: Could you go in a pub?

S: Er.....no..... I think I could handle it, but I don't want to put myself into temptation. No this is the only way for me now, I still reckon if I was to start



drinking again I would be dead. There's a list of phone numbers I can phone any of them if I need to talk. It's a strange thing too, I seen me phone somebody, and they've needed somebody to talk too more than me. And it works the same, somebody will phone me at a time when I needed somebody to talk too, it's..... I just believe that's our higher power working. As I've said before it's not a religious programme but it's spiritual, this is why anybody can come into AA.

I: What do you mean by higher power?

S: Basically it's something greater than ourselves, there are people in the AA who see it as the bible, Christ, but you can take it anyway you want. It's not religious. But I believe there is a higher power, 'cos of things that have happened.

And I read alot about the AA, I'm reading this book the now.....Sometimes now I feel I'm not getting as much out of the meetings, 'cos I'm hearing the same people. This is why we go away Lanark, Edinburgh, different places. To hear different people speak, you get fresh ideas.

People that go to the AA are just human the same as anyone else, sometimes when someone starts to speak that you've heard lots of times you might be tempted to switch off. But now I try to listen, 'cos nine times out of ten you pick up something you haven't heard before.

Its a wonderful fellowship, but I believe there's a time for it. I was introduced to the AA many years before I got sober, I was drinking 33 years before I came into the AA, but it wasn't until I reached my rock-bottom. Then there's some poor souls that never get the AA, people through in Edinburgh at the Salvation Army hostels, down the Grassmarket. And I think alot more people would come to the AA now if it wasn't for the stigma. But there shouldn't be a stigma. See I don't care who knows, I'm a great believer if somebody see's me they'll say if Cyd can do it so can I. But I'll respect anyone's anonymity.....But I think more and more people are beginning to understand that it is an illness. I can remember once being awfy worried too that it could be used as an excuse, you know the things I did through drink, could be blamed on the illness. But it's true, that's what it is. And it makes you do queer things and go queer places. Someone at a meeting was saying how they'd gone out for a loaf and ended up in Gibraltar and they haven't a

clue to this day how they got there or what happened. Just a complete blackout. See I never knew about blackouts until I came into the AA. And I can see away back as far as 16 , 17 I had blackouts. But that's part of the illness, it's a crazy thing. It's a three-fold illness, spiritual, mental and physical.

I believe I would be dead now if I hadn't found the Fellowship. It's saved my life, and I know if I picked up that first drink I would end up dead, 'cos there's no control with this illness, it's always there, it could hit you at anytime, its that cunning and baffling and above all it's patient it's sitting there waiting for you.....

No I look back now and realise what a life of misery it was, I used to be sitting in the pub with 2 or 3 inside me thinking this is great, life is good.....but it wasn't it was pure hell. I just couldn't give up drinking it was like a magnet. I'd be sitting with an inch of beer left in my glass, thinking why am I doing this..... I shouldn't be here, then I'd swallow that mouthful and put my hand out for another pint.....

mental..... that's the mental side of it. You knew you was doing wrong, you knew you shouldn't be doing it but you were driven, you couldn't stop it.

I: Are you still addicted do you think?

S: Of course that's the illness of alcoholism, I've had to accept I can never pick up that first drink, it would be the beginning of the end for me.



**Stage four transcript, no agency contact.**

**Subject 45: 2nd interview.**

**I: Can you tell me about your drinking now?**

**S: It's everyday actually if I can get it.**

**I: Why everyday?**

**S: I enjoy it, and without it I can't sleep at night, I'm waking up every couple of hours.**

**I'm drinking more now I think than 6 months ago.**

**I: Why do you think you might be drinking more?**

**S: No reason, I'm not unhappy or anything like that. I've not got responsibilities now maybe that's it. My daughter's expecting another baby, she's got a house with her boyfriend. She's still only 17 but she's seen a lot, she's seen a lot with me and the drinking and my sister with the drugs, so I don't need to worry about her, she's quite clued up. And my son's 14 now and he's gone to stay with his father. So I'm on my own.**

**I: How do you feel in the morning when you get up?**

**S: Alright actually..... I don't seem to get hangovers any more, I don't know what that's a sign of, 'cos at one time when I was on the drink, it would take me a couple of days to recover. Maybe it's because I'm drinking more..... I don't know. I know I'm an alky but so what I enjoy it.**

**I: Have you ever thought about stopping?**

**S: Not the now, maybe one day I might but I'm quite happy with it the now. I don't want a job, probably couldn't get one anyway..... maybe sometime, but I never think that far. I probably couldn't stop even if I wanted to, like if it was a serious health thing. I can't change now I've been like this for too long to change. I've tried but I can't change my whole life.**

Anyway I don't want to stop, but even when I have wanted to stop I couldn't.....

All my friends, the folk I go about with drink. So I don't get a hard time from anybody 'cos we're all the same. As I said I've got no responsibilities so it's up to me what I do.....

I: Are you addicted?

S: I've been addicted for years, but there was a time I wouldn't admit it, but now I'm not bothered, it's my life.

I: What do you drink?

S: Just Special Vat cider and vodka I never drink anything else.

I: What about the financial aspect?

S: It's a struggle to afford drink everyday, especially when you're on the brew. But in the crowd we all get our giros on different days, so whoever's got money buys the drink.



**Stage four transcript, DART contact.**

**Subject 56: 2nd interview.**

**I: Can you tell me about your drinking now?**

**S: Well I don't see Liz and Richard (DART) anymore, by mutual agreement. They were very helpful and no disrespect to them but I felt I had to stand on my own two feet. So I just went it alone, there was alot of jobs around the house which I hadn't seen before, so now I use that as a way of channelling my energy during the fidgety times into something useful. There are still times when problems hit you, sit down have a cup of coffee and think about it. So I have found ways of channelling my energy's not only for my own benefit but for the house. Pamela has been very very supportive in this, bossy at times..... which I tend to resent. I get the feeling I'm being watched over, but instead of flaring up I let it pass by me and just carry on with what I'm doing. Basically things are ticking over not too bad.**

**I: Have you been drinking at all?**

**S: Well we had a barbecue through next door, in the height of summer it was a beautiful night, and I had a couple of glasses of wine. I tend to latch on to non drinkers or those who drink wine.**

**I: Did you have the urge to continue drinking?**

**S: Well I certainly had the urge, but I didn't. Just kept it to 2 or 3 glasses of wine.**

**I: Did you enjoy it?**

**S: Er..... yes I quite enjoyed it. I had tried the non-alcoholic wine first and to me that was harder, drinking wine without alcohol. I enjoy eating and I enjoy a glass of wine with my meal. And I thought well I'll try it at home first, and i enjoyed it. I've had it twice at home and a couple of times out. But certainly up until now it hasn't made me go and get something stronger. At this barbecue spirits were available, but I was quite happy just.....I find that if you get a large glass and sip it, it doesn't empty as fast....it can, but so**

far that's a few months. They say it's like smoking, you go to bed at night and tomorrow's another day. You don't look forward to next Saturday or next Sunday, or this time next week, it's tomorrow. I've already got my work scheduled for tomorrow.

But I think I have made progress since I last saw you, because I think I said then I couldn't see myself drinking socially again, but I'm working towards it. I'm setting small goals and achieving them.

I've found now that after 3 glasses of wine I feel really affected, where as before I could drink 3 quarters of a bottle of vodka and feel as right as rain, now I would pass out if I drank that amount. So I'm quite happy to go along as I am, just having a glass on social occasions like the barbecue, or next week when we're away in the caravan.

I do have doubts now and again, especially when you hit problems I suppose I've started to do what I did when I was a youngster and just walk away from it. And I've gone back to doing crosswords again and it's like when you read a clue and you know the answer it's in your head somewhere but you just can't get it. I've seen me get up and walk around the block and that's when you think of it, so you need something else to channel your energies into.

The thing that gets me is ok it's been great with the summer we've had, great walks. Sometimes I've walked as far as Coldingham, so how am I going to channel that in the winter. I've got plenty to do now especially on the dry days, but when the jobs run out or the weather is bad I'll be at a loose end. I'm going to have to scout round for some employment. My other problem is crowds, being around other people might take a bit of getting used to.

I think Pamela would like me to get a job as well so I'm not under her feet all the time. But we are getting on better now, very few arguments and like before there was days of not speaking. It's not like that now.

But she's still got that shield around her, it's going to take some time I think. You can't do away with all those years in a few months, I have to accept that. I can't break down Pamela's barriers she has to do that herself, I can only go on doing what I'm doing. Then it's up to Pamela when the barriers come down, I'm not going to push it, I'm just going to carry on as I'm doing. Having said that I'm not saying I'm happy with the relationship as it is just now, we have the friendship but we do both tend to lead our own lives. I suppose I've got to earn back that trust.

I: Would you say you were still addicted to alcohol?



**S: If I drank spirits at this stage, I don't know whether I could stop which is why I intend to avoid spirits..... but there was a time when I didn't think I would be able to ever drink any drink containing alcohol, so I'm feeling quite positive. However I think I'll always stick to a couple of glasses of wine it would be stupidity to think I could control much more than that. It's easy to believe you are addicted when you've just been dried out in hospital and suffered cravings etc, but it's a different matter when you've been sober for so long it becomes more woolly.**

**Stage four transcript, BCA contact.**

**Subject 39: 2nd interview.**

**I: Can you tell me about your drinking now?**

**S: Well I don't see my counsellor now 'cos it's crucifying me getting up to Coldstream on my bike and back again for work at 2. There's times I could do with talking to her but I can't do it.....but then I just have to shake myself out of these moods that come.**

**I: Is that when you're likely to drink?**

**S: Yes it is.....to be honest with you I've been seeing somebody in Berwick, 'cos I went to the doctor here and complained to him that things were getting out of control. So he said will you see a counsellor in Berwick and I said aye. I had got a lot of things into my head and he's got me reasonably straightened out. And he's got me going to the library reading up on the local history, 'cos I always used to enjoy history and it fills in the time, that's what the problem is some thing to occupy what's going on inside there. Because I was getting bored and if I was bored I was going drinking and if I was wakening up in the morning feeling hellish I was getting angry, I was angry with my self, I certainly was the day I fell down the ruddy stairs..... One way or another I've got to get myself calmed down, and I've got to ignore the patches of loneliness, feeling pissed off.....**

**I: Are you drinking more or less than when I last saw you?**

**S: Less.....I had a bad patch, I had a very bad spell, I knew it was a bad spell and I had to give myself a shake. I wasn't controlling it. When I saw you before I was controlling it, then I lost it again but I knew I was losing it and that's when I went to the doctor here and he got me a counsellor here, not the Borders Council it's something else. But he said to me the hardest thing is recognising the problem, he said you can do that, you've sat and told me you cannie stop totally. So he said you can still drink, but try and find other things to do to fill some of your time then go for a drink later. Take less money out with you, things like that.**



But anyone who drinks heavily and say's the alcohol is not a problem is a liar, it is a problem.

I: Are you addicted?

S: When I go into ???? (could not decipher tape) it's an addiction..... it's an addiction I know that. But I know when I'm going out of control and I can get it back. If you can recognise it you can do something about it. When i went to the doctors here, he said we'll get you a counsellor, when the letter came it said I was on the waiting list and I would get an appointment within 6 weeks. So I went down there and told them that was no good I couldn't wait 6 weeks, I said I'm in deep stuck. The women said what is it, I said drink and other things I've got things in my head that I need to spit out. I got an appointment for 2 days later.

So Camerons alright he speaks sense to me. He said what's wrong with you is you need to find things to occupy your time.

So if I can stick to 4 pints, I'm alright the next day I dinnie need to go for more, that doesn't mean I won't go for more but not alot, there's not the same compulsion. I have to avoid the lock-ins now, I'm getting to the stage now when after alot of drink the guilt complex's are setting in, I just wouldn't feel right now, I feel it's wrong if I go over the score I'm getting the guilt complex's the next day. Start to feel oh hell I shouldn't have done this.

But anyway when I seen Cameron last week he said I'm not going to make you another appointment you can contact me if you're struggling again, I'll leave it with you. I know myself if I go on the piss it takes a couple of weeks now to get my head back together and start to calm down so I'm not going to. I can't say I'll never be drunk again. But I'm reasonably optimistic.

**Stage five transcript, BCA contact.**

**Subject 30: 2nd interview.**

**I: Can you tell me about your drinking now?**

**S: Well I rarely drink now. But looking back I think the job I was doing had a lot to do with the drink problem I had, the pressure and what have you. I was at a wedding reception last weekend and I really enjoyed it. My sister she said now watch what you're doing Ian, but I was fine. I'm not bothered about drinking now. The only times I drink is when we're out for a meal, social events or when I'm on holiday. I can't be bothered now going to pubs, I'm just not interested. At the wedding it was just lager that I was drinking. If it's a meal I'll have a glass of wine. But I never go on to spirits, because I know they don't agree with me.**

**I had 4 pints last Saturday which was fine. And my sister was sitting opposite me she was saying watch what you're doing. But I said for goodness sake I'm doing fine. Because you don't need people getting on to you. When I got back to my parents I had a small bottle of beer before coming home. Then on the Sunday we went to the Ship for a meal. I had a shandy and when they asked if anyone wanted another drink I said no I'm fine. Because now that I'm not used to drinking. I do know my own limit now and I think I'm doing fine. As I say I think the job had a lot to do with it, the pressure the stress.**

**I: If you were under pressure again would that tempt you to go to the pub?**

**S: I'd like to think not, but until I'm in that situation again I can't say for sure. But not my drinking built up over a number of years and I know I wouldn't let that happen again. I stopped drinking once I had made up my mind to, and although for a while I didn't drink at all because I wasn't sure I could control it. I am now. So I think I'm quite strong minded. My family is pleased with me.**

**I: What does addiction mean to you?**

**S: I think it's when you drink every day, and you feel you depend on it. Like I admit I'm addicted to fags, I need them everyday, otherwise I'm climbing the walls.**



**Stage five transcript, no agency contact.**

**Subject 13.**

I: Could you tell me about your drinking?

S: Well I don't drink as much as I used to drink, when I was younger I was a very hardened weekend drinker, very often starting on the Wednesday night usually through to the Sunday night. It was good fun at the time, I was single it was great. Apart from getting up for work on the Monday morning, that's the worst part of it. Well that was for a few years anyway when I was in the band, I would say for a good 5 years anyway it was the most important thing to me.

I: Were you dependant on drink then?

S: Aye I think I was, the amount I was taking I must have been. But I did go through stages when I came off it altogether.

I: Why?

S: I suppose I just felt it was getting out of hand. But one of the reasons I think I got into drinking so heavily was because I was working away from home quite a lot, staying in hotels here and there, there was nothing else to do in the evenings. ....But when I think about it I don't like going to a pub if there's not a lot of people in there, and there's no crack going on. I'll often nip across the road here to the Station and if there's no a lot of people in I'll just come back home again.

I: Why do you drink then?

S: Well as I said I was drinking heavily when I was in the band, 'cos we all did. And also when I worked away through boredom.....I've never drunk to blot things out, like I've a friend that's doing that the now. But now a days I go out for a drink to enjoy myself, well I've always enjoyed it but like boredom would be part of it before. Now I'm with Lisa and got a couple of kids so there's other things to do. Now we go out when there's a reason to.....I must admit when I'm out now I'll make the most of it, I do still

get blitered but thats alright by Lisa 'cos its not all the time anymore,its just a good night out. And I tend to stick to pints now, 'cos you don't feel so ill the next day. But compared to drinking heavily 4 or 5 nights a week I think I've settled down alot. I mean its quite frightening when I think back some of my mates didn't make it like me. Although I was enjoying myself at the time some times you'd wake up in a mess, you know waking up covered in sick - that happened a few times, and not making your work, you wonder sometimes how you managed to get through it. But I've got other things in my life now. I think alot of heavy drinking is to do with boredom and being in a certain crowd. One thing it is bad for is relationships, it definitely is bad for that, unless the person you are with is the same, I lost a few girlfriends through it.