

**THE "E" IN RAVE: A PROFILE OF YOUNG ECSTASY USERS AND
ITS IMPLICATIONS FOR EDUCATORS**

by

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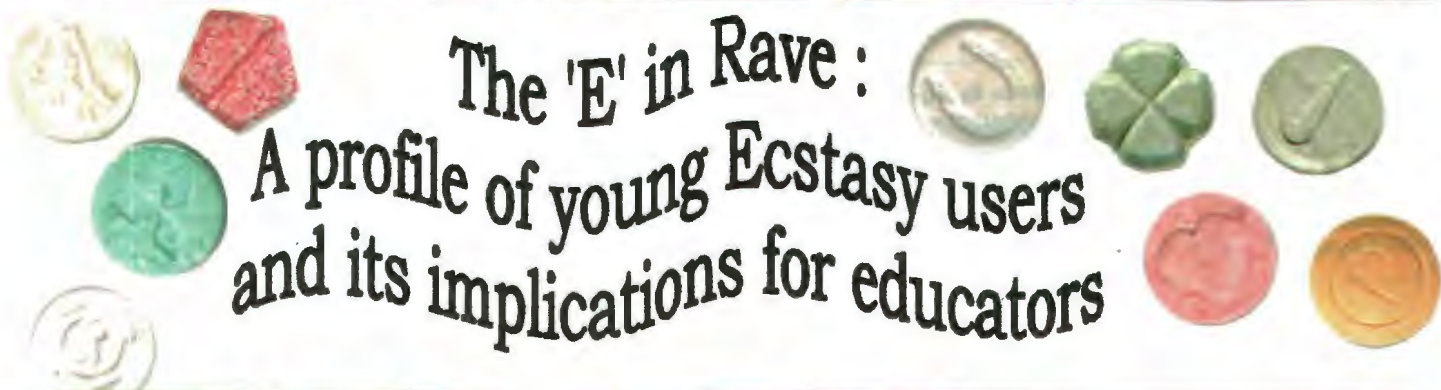
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NOVEMBER 2000



The 'E' in Rave :
A profile of young Ecstasy users
and its implications for educators



I declare that *THE "E" IN RAVE: A PROFILE OF YOUNG ECSTASY USERS AND ITS IMPLICATIONS FOR EDUCATORS* is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

.....
Miss F.H. Zervogiannis

.....
Date

DEDICATION

This study is dedicated in memory of my late father,
John Zervogiannis.

This one is for you, Dad.

“This is for you, for the father I love.

For the one who has helped me through all my childhood fears and failures.

For the man who is a wonderful example of what more men should be.

For the person whose devotion to his family is marked by gentle strength and guidance.

If you never knew how much I respect and admire you,

I want you to know it now, Dad...

I think you are the best father that any child ever had.”

Rest in peace.

1939-2000

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The Researcher
Fanitsa Zervogiannis

Durban
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THE "E" IN RAVE: A PROFILE OF YOUNG ECSTASY USERS AND ITS IMPLICATIONS FOR EDUCATORS

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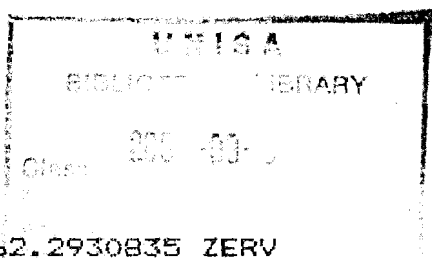
SUMMARY

The use of methylenedioxyamphetamine (MDMA) or Ecstasy is a phenomenon that has established itself in the widespread Rave culture. Ecstasy use causes not only physical, social and psychological problems in the development of the adolescent but may also influence his concentration and learning abilities. To prevent these problems educators should be well informed regarding current drug use trends and also be capable of assisting adolescents.

Research regarding the nature of Ecstasy use and the characteristics of its users is lacking nationally. The increase in use amongst school going adolescents and young adults and the fact that there are side effects and unknown long term effects has made it imperative that educators learn as much as possible about this drug. The purpose of this research is therefore to furnish the educator with accurate information that will enable him to obtain a reference point from which assistance can be offered to the young Ecstasy user.

KEY TERMS

1. adolescent
2. recreational drug use
3. MDMA
4. Ecstasy
5. Rave culture
6. spirituality
7. dance or club drugs
8. profiles of Ecstasy users
9. drug education
10. harm reduction



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Source: McFadyean (1997:90)

CHAPTER ONE**INTRODUCTORY ORIENTATION, PROBLEM ANALYSIS, OBJECTIVES,
DEFINITION OF CONCEPTS AND RESEARCH PROGRAMME**

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1.1. INTRODUCTORY ORIENTATION

Adolescents of both sexes and from a wide range of social backgrounds are trying and using drugs far more frequently than their predecessors (Parker 1995:01). With the onset of the Rave scene in the late eighties, Ecstasy ranked as one of the favourite substances of abuse. The Rave scene promoted a whole new sub-culture of Ecstasy brand names (distinguished by their colouring or tiny pictograms stamped into the tablet), along with the term “dance drugs” which appropriately described a range of drugs associated with that part of the club scene devoted to music described as “house”, “techno”, “garage” and “trance”. Surveys suggest that somewhere between one and five million people have tried Ecstasy (MDMA) in the United Kingdom, with an estimated 500 000 people taking it weekly (New Statesman and Society, 1995:14). The use of the drug Ecstasy is extremely common in many other parts of the world including the United States of America and Australia (Solowij et al 1992:1161). In South Africa an estimated 10 000 to 12 000 people ingest the drug weekly, (South African Police Ecstasy Drug Conference, 1996).

The Pocket Oxford Dictionary (1978:270) defines ecstasy as “an exalted state of feeling of rapture, joy or delight” and “an emotional or religious frenzy or trance-like state.” In the mid eighties, Ecstasy acquired another meaning when it was banned in the United States - that of the illegal drug MDMA (methylenedioxyamphetamine), whose range of effects encompasses all of the definitions above. In South Africa however, MDMA was legal until 1993. On May 7, 1993 MDMA was taken up in Schedule 8 of the Medicines and Medicines Control Act (Act101/65), (South African Police Ecstasy Drug Conference, 1996). Despite the scheduling of MDMA, people still continue to use this drug throughout the world .

Reynolds (1998:xxii) states that “MDMA is a remarkable chemical, combining the sensory intensification and auditory enhancement of marijuana and low-dose LSD, the sleep defying, energy boosting effects of speed and the uninhibited conviviality of alcohol. If that was not enough, MDMA offers unique effects of empathy and insight.” Depending on expectations and context, the Ecstasy experience ranges from open hearted emotional conversation through collective feelings of well being and happiness to full blown spiritual exaltation. Used in therapy (Beck & Morgan 1986:291; Cohen 1995:1138; Elk 1996:350; Henderson 1997:xx), Ecstasy can facilitate a profound experience of interpersonal communication and self discovery

(Reynolds 1998:xxii). In the Rave environment, Ecstasy acts as both “party-igniting fun fuel” and the stimulus for acceptance and togetherness.

What all these different uses of MDMA have in common is *ekstasis*: the Greek etymological root of Ecstasy. Its literal meaning is “standing outside oneself” (Reynolds 1998:xxii). “MDMA takes you out of yourself and into a blissful merger with something larger than the isolate ‘I’, whether that trans-individual is the couple in love or the dancing crowd or the cosmos. MDMA is the ‘we’ drug”. It is about an almost instantaneous way of overcoming alienation (Reynolds 1998:xxii). It is the friendly, happy drug.

Although the Ecstasy phenomenon has been the subject of physiological, sociological, psycho-therapeutic and psychiatric investigation, very little research has been done nationally. Despite the widespread use of Ecstasy, Solowij et al (1992:1162) note that there is a paucity of research regarding the ways in which Ecstasy is used and the nature of its effects. Because there are side effects and unknown long term effects, it is important to educate users and potential users. The increase in Ecstasy use among school going adolescents and young adults has made it imperative that educators learn as much as possible about the drug and present that information honestly. Besides parents, teachers are the most intensively involved with the child in his daily comings and goings. Through this involvement, they become intimately acquainted with the child and are often the first to notice behavioural changes or when he is not coping.

Adolescence is a period in which security is sought in conformity with the peer group, in uniformity and in gaining acceptance. It is a period during which social rejection, difference from and ostracism by peers are feared. Independence and self sufficiency are pursued and the establishment of a personal value system leads to internal conflict as well as to conflict with figures of authority (Kruger 1992:03). To target the right audience, educators not only need to know who is taking the drug but also where they are taking it. The information going out to the targeted audience must be seen as accurate and credible. Young people will “switch off” if the information does not correspond with their own experiences.

Experienced drug worker Cruickshank (in Williamson 1997:58) put it in a nutshell when he said: “Teenagers have antennae like nobody’s business. So there is a real danger in portraying

something that is exceedingly rare - if it exists at all - as normal. You must give kids the plain facts. If they find out you're talking crap, they'll reject your whole message."

Although this investigation focuses mainly on the Rave movement and Ecstasy use in late adolescence, namely 17-22 year olds, it should be noted that there are some as young as fifteen who are taking it.

1.2. PROBLEM ANALYSIS

1.2.1. Awareness of the problem

This research was initiated while working in a Rave club on weekends, over a period of five years, where it was observed that Rave is a culture devoted to hedonism, a culture synonymous with togetherness and empathy and free of aggression and violence. One witnessed acceptance and egalitarianism or as Henderson (1997:xxvi) described, "the greater democratisation of youth culture... male, female, black, white, whatever social class, gay, straight, able bodied, disabled - it all seemed not to matter." A utopian existence? Not so. Methylenedioxymethamphetamine (MDMA) was the "secret" element. With a name like Ecstasy, no other drug went by a name which expressed a feeling of any kind, let alone such a positive one. Drug taking in clubs did not appear to be about addiction but rather about recreation - a leisure activity. Young people appeared to freely choose to take Ecstasy for social reasons. It was fun and they enjoyed it. It should be noted however that not everyone who participates in Raves takes Ecstasy. However, for everyone, Ecstasy is marketed within youth culture as safe, attractive and good value for money (Parker, Measham & Aldridge 1995:05).

The first impressions that a potential user gets of Ecstasy are the following: MDMA seemingly makes you feel happy, confident, loving towards others, exhilarated and even sexy. It did not seem to have a comedown or any of the fear or anxiety associated with LSD (Henderson 1997:47). You could not get addicted, (at least not physically). One of your friends tries it first and describes to you the best feelings. You finally try one and enter a sensual pleasure landscape much bigger and so much longer lasting than any club you have ever set foot in before. Complete strangers often from a completely different social group than your own become your instant friends. Anxiety and self consciousness are out of the window. Ecstasy is something which allows you to share the most amazing experiences and feel like you belong

with hundreds or thousands of other people more than you ever did before (Henderson 1997:48). (See appendix 1).

1.2.2. Exploration of the problem

South Africa is experiencing a period of recession and change in all areas, but more particularly in social and political contexts. These changes lead to uncertainty about the future, which can be especially unsettling to the adolescent who is standing at the threshold of adulthood. Escalating crime, unemployment, violence, poverty - all these problems make the youth more prone to seeking an escape from the harsh realities of this modern world. One of the most pleasant escapes they feel, is participating in Raves or all night dance parties. Doyle (1996:02), recognises the Rave movement as the strongest, cultural influence among young people. He believes that many adolescents today find themselves cut off from their parents due to a communication gap, a lack of care, love, guidance and understanding. They see the Rave as an attempt to create a new and better culture, incorporating the ideals of peace, love, unity and mutual respect (PLUR).

Rave culture as a whole is barely conceivable without drugs. For some, this makes the idea of Rave culture a contradiction in terms. Reynolds (1998:xix) states that one might define culture as something that “tells you where you came from and where you are going, something that nourishes the spirit, imparts life wisdom and generally makes life habitable.” Rave therefore provokes the question: is it possible to base a culture around sensations rather than truths and fascination rather than meaning?

Collin (1997:280), notes the difficulty in overstating the impact that Ecstasy had on young people’s perception of drug taking. It was, many believed, not only an alternative to alcohol and tobacco, but a less harmful alternative. Ecstasy appeared to be socially acceptable to many who frowned on the use of other illegal drugs. To the thousands of young people who had never taken illicit substances, Ecstasy’s harmless appearance was the opposite of everything they had ever been told about drugs. Ecstasy did not need to be smoked, injected or even sniffed. “It was literally an easy pill to swallow and it came packaged, not as a drug cult but as the ultimate entertainment concept with its own music, clubs and dress codes- and to many it was the euphoric peak of a lifetime” (Collin 1997:280).

McDermott (1991:109), reports that “Individuals develop a strange relationship with Ecstasy, a different relationship than with other drugs. Because they have such a good time on Ecstasy and it makes them feel so benevolent, there is a sense of ‘Well, this isn’t a drug, or if it is, it is a very benign substance’.” The special relationship with Ecstasy as a harmless, weekend, party drug opened up a whole new range of people to “chemical romance” who may previously never have entered the illicit drug world (Henderson 1997:52).

Society’s stereotypical portrayal of all drug users as sad, incorrigible victims was not reflective of ravers. Young people who took Ecstasy at Raves were not necessarily drop outs or deviants. Almost all of them are perfectly ordinary, healthy young people from all social classes who maintain a high degree of functionality in daily life (Parker et al 1995:04) be it at school, university or in their professions. Educated, middle class people- doctors, lawyers, psychologists, teachers, journalists- enjoyed Ecstasy. It is important to recognise their diversity and the variations of their life experiences.

“One of the central dynamics of ecstasy culture is the attempt to recreate the initial euphoria, to relive the exhilarating high, to chase the thrill of the rush. This has produced a recreational drug culture on a scale bigger than any... this century” (Collin 1997:280). According to lieutenant Corrie Botha (1998) of the South African Narcotics Bureau, Ecstasy is taking over the drug market in South Africa. The lack of information regarding Ecstasy amongst users can be portrayed as a danger in itself. Reynolds (1998:190) points out that the craving for heaven on earth almost always leads on to a dark side phase of drug excess and paranoia. Because the original euphoria of the early Ecstasy experience never really returns, users are tempted to increase the dose which only increases the speediness and the unpleasant side effects.

By 1996 in South Africa (1991 in the UK), things began changing both culturally and chemically, as the initial innocence of the Rave scene began to fade. Recession and increased economic uncertainty was the perfect time for drug excess and escape. However, taken too often, Ecstasy loses its special appeal and many users may get drawn into compensatory polydrug use, taking other substances to mimic the effects originally achieved by MDMA. A large number of ravers began to explore a wide range of legal and illegal psychoactive stimulants, taking them in any and every combination and knowing very little about their effects both in the short and long term. These ranged from alcohol (booze) to amphetamines

(speed), cocaine (charlie), LSD (acid), ketamine (kit kat, special K), amyl nitrate (poppers), marijuana (grass, spliff), “natural highs” such as cloud 9 (herbal ecstasy), midnite flite (ephedrine based), guarana, rohypnol (roche), Temazepam (T-pam), diet pills (ThinZ, Dietene), regmaakers (cafffeine pills), reactivan - anything to heighten the intoxication, to get further “out there.” (See figures 4.4 - 4.7). People no longer talked about “getting on one” (getting “high” on one pill) but rather, “getting off my face” (ingesting more than one pill combined with other drugs) (Collin 1997:282). Rave culture no longer appeared to be driven by MDMA alone. It had become a polydrug scene. Youths are becoming drug connoisseurs before they are legally adults at the age of twenty one.

Some began to realise that Ecstasy was not the wonder drug they had once believed it to be. People were ending up in hospital after long nights on the dance floor. The very drug which promised pleasure can and did actually kill (Collin 1997:282). The numbers were extremely small but the perception of Ecstasy as a safe recreational drug was being seriously examined. Henry (1992) noted that, Ecstasy is widely misrepresented as being safe. He went on to warn that the deaths, however small in number, might be an indication of a far worse catastrophe in the future. “These few people who have died are tragic, but the critical factor is the possibility of long-term damage. What we have going on at the moment is a massive experiment, and we will only know the full answers in years to come,”(Henry et al 1992:385).

Regardless of certain Ecstasy fatalities, namely Britain’s eighteen year old Leah Betts (1995) and Durban’s twenty year old Deeanne Groenewald (1998), death was not even enough to stem the tide. Some clubbers interviewed in the popular British dance magazine Mixmag confirmed this. Yes it was tragic, people responded, but some kind of “freak accident” would not put most of them off swallowing another pill that weekend. “There’s been plenty of deaths,” said one respondent, “you just go out and do it the next weekend. I know the risks and I am willing to keep on taking them” (Mixmag 1996:23). Many Durban clubbers shared the same sentiments.

Because Ecstasy is illegal, there is no control of what the pills contain. Young people are ingesting pills despite not knowing what the quality of the pill is. There is no guarantee that any of them are Ecstasy. They choose to take the risk anyway. Henry (in Collin 1997:286) aptly delivered the catch phrase: “Taking Ecstasy is like playing Russian roulette.” What was

being sold as Ecstasy was seldom MDMA. Consequently, the finger was pointed at the dealers and manufacturers who were accused of cutting pills with everything from heroin to rat poison.

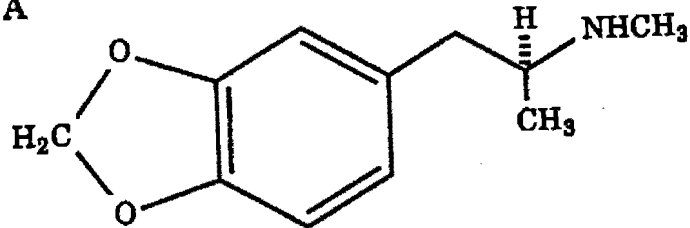
According to Brian Boucher (1998), senior superintendant of Point Road police station in Durban, "there is a shortage of MDMA, so drug dealers are mixing E with other drugs, which is making it more dangerous." Jan van der Merwe (1998), assistant director of the South African National Council on Alcoholism and Drug Dependence, cites that "as well as strychnine, back street drug manufacturers are known to mix arsenic, heroin, cocaine, LSD and animal tranquillisers with the basic ingredients." This reinforced the commonly held belief of Ecstasy users that contaminated pills, and not MDMA itself, were dangerous (Collin 1997:288).

Malcolm Brown (1996), the United Kingdom drugs liaison officer to the South African Police, affirms that the adulteration of Ecstasy has always occurred in the United Kingdom. Adulteration is often with innocuous substances but it is not uncommon for Ecstasy to be mixed with cocaine and amphetamine, even ephedrine. Sometimes MDA (methylenedioxyamphetamine), MBDB (methylbenzodioxylbutanamine), MMDA (methoxymethyldioxyamphetamine) and MDE (methylenedioxyethamphetamine) are used instead of MDMA (methyldioxyethamphetamine) (Eisner 1986:150-156) and are sold as Ecstasy to the unsuspecting user. (*See figure 1.1*).

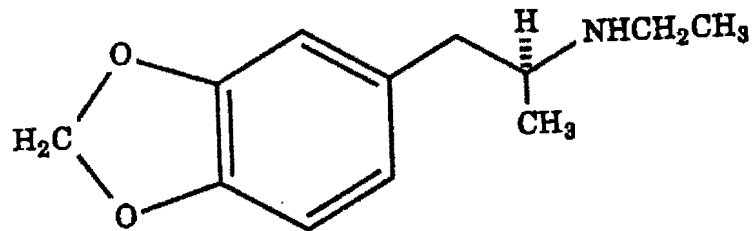
As far as the drug trade is concerned, South Africa has strong ties with the United Kingdom (UK) and also has links with the Netherlands. With a combination of the two, it is almost inevitable that South Africa, certainly in the short term, will derive most of its Ecstasy from those countries even allowing for the establishment of internal production. Although the UK and the Netherlands are the source, it must be noted that these countries may only be the initial points of departure for couriers, with Brussels, Frankfurt and Copenhagen being potential exit points from Europe and Harare and Windhoek as potential transit points into South Africa (South African Police Ecstasy Drug Conference, 1996).

Figure 1.1: The chemical structure of MDMA and its variations (Eisner 1989:151).

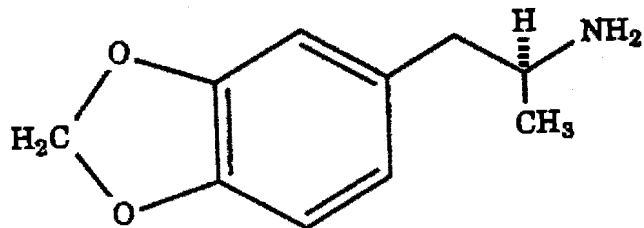
MDMA



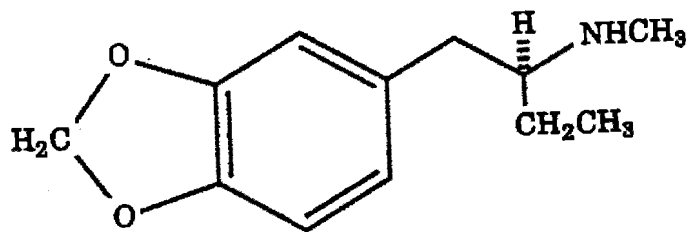
MDE



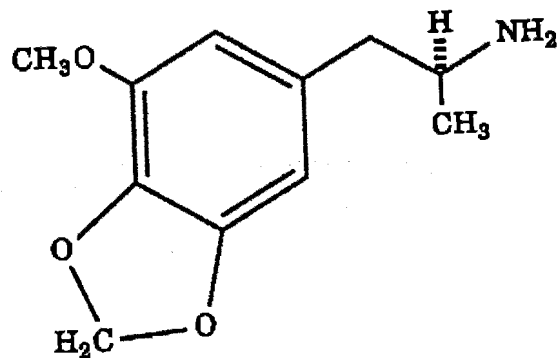
MDA



MBDB



MMDA



Although the purity of Ecstasy fluctuates, the general rule today, according to Reynolds (1998:xxx) appears to be that you have about a 10 % chance of buying a total dud (usually containing decongestants, antihistamines or harmless inert substances) and about 66% likelihood of getting a variable dose of pure MDMA. The rest is taken up by pills that contain MDMA related substances. Instead of making ravers more careful, the uncertainty of supply seems to have the reverse effect. Ravers keenly assume that they have been sold a low grade product and take more pills to compensate- resulting in the collective moan, “E’s are shit these days, you have to take a few of them to get on a buzz.”

Reynolds (1998:xxx-xxx) maintains that excessive routinised use combines with Ecstasy’s diminishing returns to form a vicious circle - a negative synergy. The individual’s experience of Ecstasy is degraded. On the collective level, Ecstasy or Rave scenes lose their happy, peaceful “vibe” and become a “soul destroying” rut. This utopian/dystopian debate inherent in Rave culture led Reynolds (1998) to the coining of some new quasi-pharmacological terms: “vitalyst” (from the words vitalise and catalyst) and “oblivate” (from the words oblivion and opiate). These terms describe the drug experiences rather than the properties of MDMA itself; the same drug if abused, can cross the line between positive and negative (Reynolds 1998:xxx). Ecstasy is not conducive to regular and frequent use. Tolerance develops to the desired positive effects of the drug while negative effects increase (Solowij et al 1992: 1162).

Ecstasy starts as out as a “vitalyst”, you feel more energetic, alive, confident and closer to others. On the macro level, Rave scenes in their early days are filled with vibrance, PLUR and a “we’re gonna change the world” idealism. However, with regular, uncontrolled use or abuse, Ecstasy can become just another “oblivate”, like alcohol and narcotics: something that “numbs the soul” and transforms Rave scenes into escapes from reality (Reynolds 1998:xxx). This utopian/dystopian shift is a recurring theme experienced by successive Ecstasy generations all over the world (Reynolds 1998:xxx).

1.3. STATEMENT OF THE PROBLEM

The central problem pertinent to this investigation is adolescent Ecstasy use at Raves. Adolescence is a phase of life during which dramatic physical, cognitive and social development and change come about. The adolescent is therefore exposed to a wide range of

stress inducing factors. Apart from the irritability and inattentiveness that excessive stress may cause, increased smoking, drinking or drug use are some of the self-destructive behaviours in which adolescents may engage. Ecstasy use causes not only physical and psychological problems in the becoming and development of the adolescent but may also influence his self concept, academic performance, concentration and learning abilities. The use of the drug can also give rise to a number of social problems that include relations with family, school or work, the law and possible personality changes but the extent to which these should be considered as drug problems rather than normal adolescent rites of passage is arguable and, as Saunders (1997:39) points out, often depends on highly subjective criteria.

Teachers as secondary educators, are only surpassed by parents in the extent of their close involvement with the adolescent's development. They are therefore ideally placed to identify the above mentioned influence of Ecstasy and to lend assistance. However in order to offer assistance to the child who is taking Ecstasy, both parents and teachers must be sufficiently knowledgeable about Ecstasy use and be able to identify it in adolescents.

1.3.1. Subsidiary problems

- * Young adolescents use the drug recreationally.
- * Many young people appear dependent on Ecstasy to have fun.
- * Young users believe that Ecstasy is a "safe" drug.
- * There has been an escalation in the number of Ecstasy pills consumed per occasion.
- * There are risks involved in taking Ecstasy.
- * The Ecstasy pills themselves may not contain MDMA.
- * The long term effects of Ecstasy (MDMA) are still unknown.
- * Ecstasy is easily available at Raves.

- * Raves expose young people to drugs.
- * Rave participants perceive Ecstasy use as an accepted part of the night out.
- * Ecstasy users may develop into polydrug users.

1.4. OBJECTIVES OF THE STUDY

The primary objective of this study is therefore:

- * to develop an awareness of adolescent Ecstasy use at Raves by drawing on information obtained from an extensive literature study, in addition to conducting idiographic research. The study must provide educators with accurate, factual information regarding Ecstasy use and Rave participation in order that the users may be assisted.

The secondary objective of this study is:

- * to show that there is a specific need for honest and accurate drug education among school children and young people.

1.4.1. Subsidiary objectives

The subsidiary objectives are as follows:

- * to study the becoming and the development of the adolescent.
- * to examine the nature of Ecstasy use in order to determine the context and mode of use, that is, "who uses?", "why?", "when and how?"
- * to investigate the effects of MDMA - including psychological, physiological and after effects.
- * to explore the issue of dependence versus problematic use versus now problematic recreational use.
- * to investigate the risks and potential neurotoxicity of MDMA.
- * to examine the fundamentals of raving.

- * to determine why young people participate in Raves.
- * to explore the issue of polydrug use at Raves.
- * to ascertain the educational implications of Ecstasy use.

The ultimate goal of assistance by educators lies beyond the parameters of this investigation, however it will be considered in brief. Assistance nevertheless remains an exciting challenge awaiting educational researchers once the primary object of this study is attained.

1.5. DELIMITING THE AREA OF INVESTIGATION

The research under review is confined to developing an awareness of young Ecstasy users. To identify Ecstasy users, however, acceptable definitions of the terms adolescent, Ecstasy (MDMA) and Rave must be formulated. The reasons for Ecstasy use will also have to be examined, as will the manifestation/effects and personal accounts or experiences of actual Ecstasy use in the adolescent. The becoming and development of the adolescent's journey to adulthood will also be subjected to scrutiny.

It is important to give an indication of the methods that will determine the course of this study.

1.6. RESEARCH METHOD

The researcher employs the following methods :

- * an extensive literature study including foreign and local sources dealing with the nature and use of Ecstasy (MDMA), the ethos and philosophy of Raves and the becoming and development of adolescents.
- * conducting an empirical investigation by means of case studies which would include interviews, structured questionnaires and the following standardised tests:
 1. 16 -Factor Personality Questionnaire
 2. Values Scales
 3. Adolescent Self Concept Scales
 4. Personal Identity Scales

- * application of the analytical method with a view to arriving at conclusions about the findings emerging from the study

A bothersome variable in the study would appear to be the quality/purity of the Ecstasy pill and whether the drug actually taken by the subjects was in fact MDMA. In order to control the quality of pills for the purpose of this study, the researcher kept a record of the various brandnames of Ecstasy pills which have been available in Durban clubs over the past three years, contacted the narcotics bureau to confirm the primary source of pills to South Africa and consulted test/composition results done in those countries. As a result of MDA, MBDB and MDE being sometimes used instead of MDMA and sold as Ecstasy to the unsuspecting user, the subjects were requested to comment on the effects they experienced after having ingested pills which contained MDMA and not on related substances. (*See glossary for full names of abbreviations*). Unless otherwise stated, the term "Ecstasy" where used in this study, refers only to MDMA. (*See appendix II for Ecstasy brandnames and composition results.*)

A clear definition of concepts is necessary in order to preclude confusion and vagueness in the following chapters.

1.7. DEFINITION OF CONCEPTS

1.7.1. MDMA

This illegal substance is a semi-synthetic chemical compound, scientifically known as MDMA or 3,4 methylenedioxymethamphetamine and commonly known as Ecstasy. MDMA is a member of the phenylethylamine family of drugs, related both to mescaline and amphetamine. It is often described as a stimulant and/or a hallucinogenic (Eisner 1986:04). The primary effects are a "positive mood state" and feelings of intimacy and closeness. The secondary effects are the stimulant effects of energy and activation and psychedelic effects of insight and perceptual sensual enhancement (Solowij 1992:1161). The structural activity of this drug is so different from others that, it has been argued, the drug deserves a new category. Terms that have been suggested to describe this category include "empathogen", from the drugs' capacity to evoke a sense of empathy and "enactogen" from the Latin word meaning "to touch within" (Eisner 1986:34).

1.7.2. Ecstasy

Ecstasy comes in tablets, capsules and occasionally white powder. The form of the tablets and capsules - their colour, shape, size and pictograms stamped on them - change all the time as the manufacturers try to evade the law (McFadyean 1997:60). The tablets often known as "E" have a range of other names: doves, killers, apples, VW, tulips, disco biscuits, mitsubishis, white diamonds, mercedes, one two five, clovers, sunshines, e-mails, dolphins, playboys, stars, pink champagnes- to cite a few.

1.7.3. Rave

A "Rave" usually refers to an all night dance party which is open to the general public, where loud "techno" music is played and many people partake of different recreational drugs, although the latter is far from necessary. A large part of the concept of Raves is built upon sensory overload - a bombardment of audio and very often visual stimuli are brought together to make people feel as though they are elevated into an altered state of consciousness (Brown & Behlendorf 1995:03).

1.7.4. Adolescence

The term adolescence, derives from the Latin verb "adolescere", meaning to grow up or to grow to adulthood, thus referring to a developmental phase in the human life cycle that intervenes between childhood and adulthood (Gouws & Kruger 1996:03). De Wit and Van der Veer (1982:16) note that the onset of adolescence is a physiological phenomenon (puberty) while its end is culturally determined (adulthood). Although it is difficult to delimit the adolescent phase in terms of chronological age, it is generally accepted that it starts between the ages of 11 and 13 years and usually ends between 17 and 22 years (Gouws & Kruger 1996:03). This period can be subdivided into early (age 10-14), middle (age 15-17) and late adolescence (age 18-22) (Seifert, Hoffnung & Hoffnung 1997:333). Late adolescence will be the focus of this study.

1.7.5. Adolescent

The adolescent is the youth at the developmental phase between childhood and adulthood. For the purpose of this study adolescents will therefore be viewed as youths on their path to adulthood. They are total, complete individuals, whose own feelings and perspectives

influence their own personal goals within their own environments, as each lives as a member of society (Manaster 1989:14).

1.8. RESEARCH PROGRAMME

In view of the allocation of subject matter to chapters, the research programme will consist of the following:

- Chapter 1: Preliminary study, introductory orientation, statement of problem, delimiting parameters, methodology, definition of concepts and the research programme.
- Chapter 2: The adolescent is studied from a psycho-educational perspective and the becoming and development of the adolescent are considered in the light of existing literature .
- Chapter 3: MDMA is studied with reference to various factors, such as: its history, the role of set and setting, physiological and psychological effects, risks involved and potential neurotoxicity.
- Chapter 4: The ethos and philosophy behind Rave culture is explored.
- Chapter 5: Research design and methodology is outlined.
- Chapter 6: Findings of the structured questionnaires regarding recreational Ecstasy use are recorded.
- Chapter 7: Findings of the case studies and standardised tests are recorded.
- Chapter 8: Conclusions are drawn, the implications of this investigation are discussed and recommendations for further study are made taking into account the shortcomings of this study.

CHAPTER TWO
THE ADOLESCENT: A PSYCHO-EDUCATIONAL PERSPECTIVE
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2.1. INTRODUCTION

Psychology of Education is based on the education phenomenon, deals with the participants involved in the education situation, and observes the education phenomenon from a particular perspective (Du Toit & Kruger 1993:01). This discipline concentrates on a description of the facts concerning the child who is being educated and the adult as educator. It is concerned with the perceptible, descriptive, experimental and the measurable (Vrey 1979:05).

Thus, Psychology of Education or Empirical Education is involved with the concrete facts regarding:

- * the becoming child, as a person with possibilities and limitations, in his progress toward adulthood, and
 - * the adult as educator who supports and accompanies the child to adulthood
- (Du Toit & Kruger 1993:02).

When Ecstasy use (drug use) in the adolescent is approached from a psycho-educational perspective, attention should be paid to the general becoming and development of the adolescent in education and to the role played by the educator in this regard. Particular attention must also be given to the manner in which the adolescent makes his drug use known and the means whereby the educator can become aware of the adolescent's predicament. For a meaningful study of the Ecstasy phenomenon and successful identification of use in adolescents, however, the researcher first has to gain a clear picture of the adolescent, his becoming and development, his founding of relationships and his needs and aspirations.

In this chapter, an effort is made to give a brief overview of the theory underlying the psycho-educational perception of the human being. Attention is paid to the presuppositions and categories of the psycho-educationalist. Emphasis is placed on the interweaving of the categories as well as the fact that the various domains of becoming and development are distinguished exclusively for the sake of scientific study and reflection, but that they can never be separated (Du Toit & Kruger 1993:103). The involvement of the adolescent in totality with reality and more particularly, his experience of Ecstasy are closely examined in this study.

2.2. PSYCHO- EDUCATIONAL THEORY

Vrey (1979:49) identifies some essential factors involved in being an educand and maintains that these essences can apply as categories of Psychology of Education .

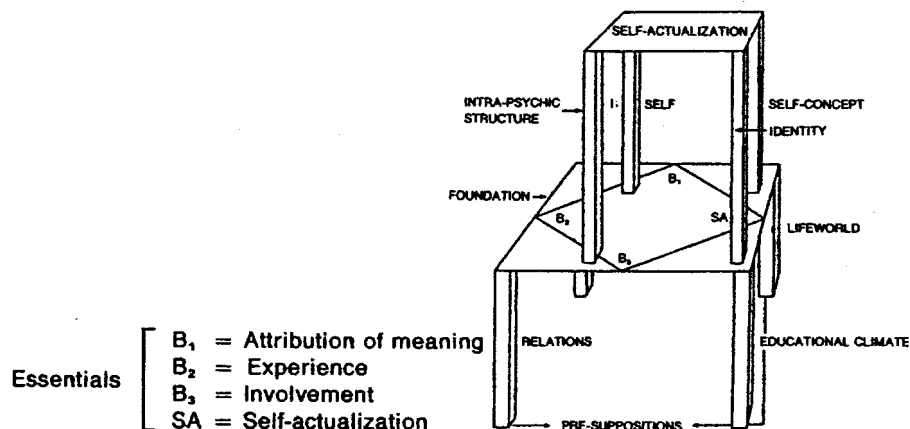
They are the following :

- * attribution of meaning
- * involvement
- * experience
- * formation of self identity and positive self concept
- * self actualisation

He describes these categories as illustrative modes of thought, milestones or fixation points that are essences which will ensure that our information regarding the educand will be pedagogic (Vrey 1979:28).

Jacobs (Raath & Jacobs 1993:06) expands the psycho-educational theory further and states that meaning attribution, involvement, experience and self actualisation, coupled with the presuppositions, namely the forming of relationships, the life world and the educational climate, constitute the basis upon which the intra psychic structure rests. The intra psychic structure comprises the I, the self, the identity and the self-concept. From the mutual interaction of this structure, the person's consequent behaviour results, and will eventually influence his development.

Figure 2.1 shows a schematic representation of psycho-educational theory as interpreted by Jacobs (Raath & Jacobs 1993:06):



2.2.1. *The Adolescent as Person*

2.2.1.1. *The "I"*

Since the "I" (as subject) always has "me" (as object) characteristics, it can never be seen as an independent entity, but must always exist in relation to the self (Raath & Jacobs 1993:08). Raath and Jacobs (1993:08) agree with Vrey (1977) that the "I" is unobservable and that it can never be made into an object. The "I" is moral and is the drive and guide behind a person's thoughts and actions. The me can be described as the object of experience that is known to the consciousness: the "I" on the other hand is the subject. The "I" is regarded as belonging to the psychological dimension of being human which is present in every act and thought of people (Kruger 1992:20).

2.2.1.2. *The Self*

Vrey (1979:13) describes the self as the "Gestalt" of what man can call his own. The self includes the person's set of ideas, his attitudes, his values and whatever he commits himself to. The self is therefore the core of a person's life, the world in which he lives as he sees it and experiences it. Furthermore, the self is the core where the individual's awareness of the different aspects of his personality begins (Raath & Jacobs 1993: 8-9). According to Vrey (1974:78) the individual experiences himself as a thinking, feeling, wanting and doing entity, that is the ability that allows him to play his various roles as a person. An example of this is the boy who can at the same time be a son, grandson, student, member of his peer group, boyfriend, raver and rugby player. In every role he is, "myself" (Vrey 1974:75). The self can therefore be seen as having many facets.

2.2.1.3. *Identity*

Identity can be described as the significance which a person attributes to himself and therefore answers the question: "Who am I?". Identification takes place when a person perceives himself in accordance with others and acts accordingly (Vrey 1979:45). Interaction with other persons in his life helps him to become acquainted with himself as a son, a friend and a raver, for example. The concept of identity is not simple but multifaceted, since just as many aspects of the self are distinguishable as there are identities (Kruger 1992:20).

Although identity formation usually reaches a plateau of stability after adolescence, Erikson (1968:204) maintains that it never really stops (Raath & Jacobs 1990:11). Vrey (1979:45)

puts it as follows: "The formation of a self identity is a life long task. The individual and his society are largely unaware of this process... The important point is this: with educational support an own identity gradually takes shape, it is accepted by others and a certain dignity is assigned to it. When this happens, the person becomes someone. "

2.2.1.4. *Self-Concept*

The self concept is the evaluative image or concept that a person has of himself and is unique, personal and highly meaningful to the person concerned. According to Raath and Jacobs (1993:21) the self concept is a person's attitude and evaluation of himself, his behaviour and competence. It is a person's way of perceiving himself and that perception may be either positive or negative. As such it is the core of a person's personality which is why people protect it by every means at their disposal (Gouws & Kruger 1996:06). Self concept is thus the personal evaluation of the self identity.

In the subject literature there are numerous opinions about exactly what a self concept is. Although these theories are not in agreement on all aspects of the self-concept, they do agree in essence and according to Raath and Jacobs (1993:15) the following can be concluded :

- * The self concept is complex and consists of several smaller concepts that are integrated into the person's self concept.
- * The self concept of each person is unique and therefore differs from the self concepts of all other people.
- * The self concept is the core of the self.
- * The self concept is an organized configuration of conceptions.
- * The self concept is dynamic and develops cognitively and affectively as a result of the child's experiences in life.

The self concept can therefore not be seen as an isolated component of the individual's life. It is integrated with everything that happens to a person throughout his life. It is therefore also

integrated with his self, which is the unique view that every one has of himself and his world (Raath & Jacobs 1993:15).

2.2.1.5. *Formation of the Self Concept*

The self concept according to Vrey (1979:47) comprises three mutually dependent components namely, identity, action and self-esteem. *Identity* involves knowing who and what one is so that one can satisfactorily answer the question "Who am I?" (Vrey 1979:44). Identity refers to the meanings which a person attributes to himself - it is cognitive. For example: "I am a boy, a pupil in matric. My name is Rob."

Action denotes the occurrence of an event in terms of which a person evaluates his self identity. These actions or behaviours elicit reactions from other persons that are important to the person concerned and the reactions may be either positive or negative (Gouws & Kruger 1996:06). To be a boy, gender identity, implies typical behaviour related to the identity. "I am a boy therefore I behave myself as a boy should behave." Likewise, to be a raver, role identity, also implies typical behaviour related to the identity as a raver. "I am a raver therefore I behave myself as a raver should behave (drugs being an acceptable part of a night out)."

Self esteem is a self evaluation made by a person whereby his self concept is formed. When people evaluate their own achievements and actions they do so subjectively because other people's reactions to their actions or achievements affect their self evaluation (Gouws & Kruger 1996:06). The outcome of self-evaluation is a high or low self worth with the result that the adolescent appraises or esteems himself poorly or highly (Du Toit & Kruger 1993:21). For example, an adolescent's acceptance by his peers at a Rave may enhance his self esteem which in turn may influence his participation in Raves. On the other hand, an adolescent's potential use of Ecstasy at a Rave may result in him lowering his self-worth as his behaviour seems contrary to the parental, cultural and home norms which were inculcated over many years. Parents may see their son as a failure for taking Ecstasy and reject him. He in turn may feel that his parents do not want to understand him and do not care about him. Hence, he esteems himself poorly.

Positive feedback results in pleasant experiences (experiences of acceptance or success for example), high self-evaluation (if that behaviour for which the positive feedback is received is

highly regarded in the person's culture) and high self esteem. Negative feedback results in unpleasant experiences (experiences of failure and rejection for example), poor self evaluation and poor self esteem (Du Toit & Kruger 1993:21).

Among the results of unrealistic self concept formation are an unenterprising disposition, a sense of inferiority and reluctance to become involved in the learning event (Gouws & Kruger 1996:06). Pronouncements made by adolescents with a low self concept include the following (adapted from Gouws & Kruger 1996:06):

- * My parents do not want to understand me.
- * Nobody likes me.
- * I am so ugly and fat.
- * I feel excluded from everything.
- * I do not belong anywhere.
- * They do not care about me.
- * I have no friends.
- * I am so stupid.
- * I am worthless.
- * I hate myself.

These unrealistic self evaluations indicate the need for the presence of an adult who can assist the adolescent. Vrey (1979:48) asserts that educational assistance is an indispensable means of discovering meanings and of assisting adolescents to form a positive self-concept.

People's self concepts develop gradually as they pass through a variety of stages from infancy to adulthood. Self analysis and self criticism intensify during adolescence when adolescents struggle with the question: "Who am I?" and continuously measure themselves against the norms and values of society. The standards of friends and of the peer group become a particularly important yardstick for self appraisal (Gouws & Kruger 1996:06). The elements of the self concept are reflected in figure 2.2 (Gouws & Kruger 1996:07):

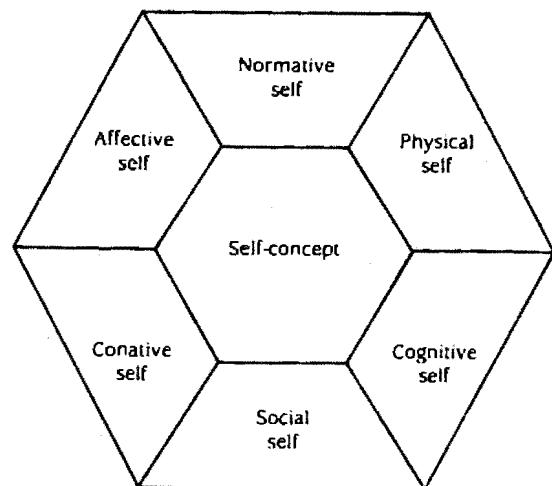


Figure 2.2: *Elements of the Self Concept.*

The relative importance of these elements may differ from one person to another but the whole is always affected by the evaluation of specific parts. Fluctuating circumstances and other people's reactions influence the maintenance and change of a person's self concept (Gouws & Kruger 1996:06).

According to Vrey (1974:95) the self concept is also the criterion whereby the individual differentiates, attributes meanings, evaluates, anticipates and behaves. Every child should (with the support and guidance of his educators) form a realistically positive self concept (Du Toit & Kruger 1993:06).

2.2.2. *Becoming Adult*

In order to attain adulthood, the child has to orientate himself towards other people, objects and norms in his world with the help of his educators (Du Toit & Kruger 1993:06).

2.2.2.1. *Becoming and development*

The word *become* implies a "transition to another condition" (Du Toit & Kruger 1993:06). According to Vrey (1979:10), in an educational sense, becoming refers to the total involvement of the person, purposefully moving towards adulthood. It refers to the purposeful deliberate action of the child-in-totality whereby the "not-yet-adult" becomes an adult (Du Toit & Kruger 1993:06). It must always be kept in mind that, in spite of his own purposeful and deliberate participation, the adolescent's becoming is always dependent on educational help.

Development, implies "bringing or coming to maturity, a gradual progression or unfolding" (Pocket Oxford Dictionary 1978:228). Both Du Toit and Kruger (1993:07) and Van den Aardweg and Van den Aardweg (1988) refer to development as "the gradual perceptible unfolding or change, which is manifested in the mastery of developmental tasks as the child reaches the objectives of becoming adult during his progress to adulthood." Whereas becoming adult refers to the transition to adulthood, development refers to the empirical manifestations in the process of the child's becoming adult (Vrey 1979:10).

Becoming is less perceptible than development, but more inclusive since it involves, among others, acceptance of responsibility, a sense of purpose and self actualisation. Thus becoming and development are not synonymous but mutually dependant (Vrey1979:11).

2.2.2.2. *Areas of becoming*

The adolescent as a person comprises several dimensions or domains of becoming which can be differentiated for the purpose of scientific study but are inseparable in practice. The domains are as follows:

- | | |
|--------------|--------------|
| 1. physical | 4. normative |
| 2. affective | 5. conative |
| 3. cognitive | 6. social |

The child is always involved as a totality in his own becoming. Adolescents' becoming and development in the physical, cognitive and affective domains, for example, take place as an undifferentiated event in which they are involved as indivisible persons. Development in one domain influences that in others and the same goes for problems (Gouws & Kruger 1996:09). For example, drug (Ecstasy) use (social) can cause scholastic problems (cognitive) which may lead to serious physical and emotional problems. It is therefore pedagogically unsound, for example to treat the social or cognitive development of the adolescent as an independent entity on the assumption that it is completely unrelated to other domains. In studying one domain its close ties with the domains must never be lost sight of. The interwovenness of the various domains can be represented schematically as follows:

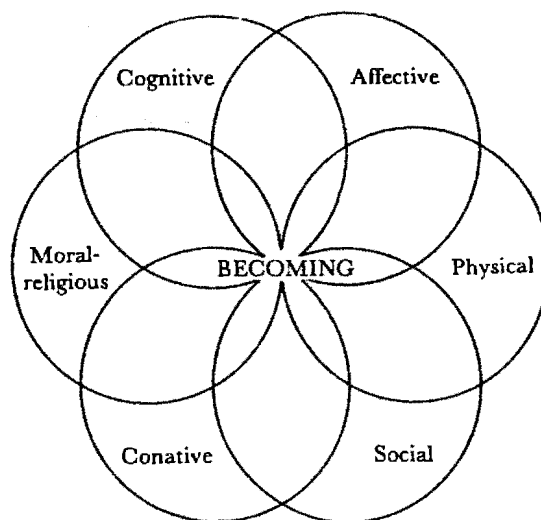


Figure 2.3: Schematic Representation of the Interwoven Domains of Becoming (Du Toit & Kruger 1993:68).

2.2.3. FRAMEWORK FOR THE STUDY OF ADOLESCENTS

The becoming and development of the adolescent are studied in view of activities required for maturation and different domains of becoming.

2.2.3.1. *Maturation Activities* (activities associated with becoming an adult)

As indicated, adolescence is a developmental phase during which increasing progress is made towards maturity. This progression is characterised by categories in terms of which adolescents can be studied from a psycho- educational perspective.

2.2.3.2. *Meaning Attribution*

Meaning attribution is integral to being human because every person wants to know, to understand, recognise and do things. People are constantly confronted by people, things, objects, ideas and themselves, on both an abstract and a concrete level. In order to orientate themselves in this world and construct a steadily expanding life world, they have to attribute meaning to everything they encounter (Gouws & Kruger 1996:04). As soon as meaning is attributed, the person's behaviour is directed. Vrey (1979:32-33) asserts that the better the orientation, the greater and more effective the degree of independence. Without increasing meaning attribution there can be no development towards adulthood or growth in independence.

Meaning attribution is an activity requiring total personal commitment (Gouws & Kruger 1996:05). According to Vrey (1979:34), it always has a cognitive or logical dimension (which depends on differentiation, integration, comparison and memorisation) and an affective dimension (experiencing of emotion). The activity entailed by the logical dimension is known as denotative meaning attribution. In attributing denotative meaning to Ecstasy for example, an adolescent may describe it as a white to off-white pill with a pictogram. Attribution of logical meanings make common understanding in communication through the medium of language possible (Du Toit & Kruger 1993:16).

The activities associated with the psychological dimension are known as connotative meaning attribution, which has its origin in the fact that individuals are always involved in meaning attribution as totalities rather than as mere cognitive or logical beings. Meaning attribution is therefore invariably coloured by affective (feeling related), conative (will related), normative

(norm and attitude related) and other individual attributes (psychological meaning attribution), (Gouws & Kruger 1996:05). For example, an adolescent who loves Ecstasy may describe Ecstasy as a wonderful, miracle, happy pill which has changed her life for the better. Such a description is characterised by the adolescent's uniquely personal or connotative meaning attribution. Meanings which she attributes during her involvement are so subjectively coloured by her experiences of, for example, acceptance or belonging at a Rave (affective), that they are uniquely personal.

Jacobs and Vrey (1982:11) point out that the intensity of experiences during involvement can be so high that denotative (logical) meaning attribution is concealed by connotative (illogical) meaning attribution and the person is not able to understand. In the case of an adolescent who takes Ecstasy at Raves, the logical meaning, in this instance the Rave as a false reality, can be overshadowed by the illogical meanings which he attributes to "raving" without the drugs. Such illogical meaning attribution may include the following beliefs: The ultimate Rave experience includes Ecstasy. The music sounds so much clearer, the people are so friendly and welcoming, the visual effects are crisper and brighter and the atmosphere is one of belonging and love. The Rave in its entirety simply would not be the same without Ecstasy. Similarly, the logical meaning that all drugs including Ecstasy carry some risk no matter how small, may be surpassed by the illogical meaning which the adolescent attributes to Ecstasy - namely that Ecstasy is a safe drug and his peers who ingest it every weekend are living proof that there are no dangerous effects.

DuToit and Kruger (1993:16) maintain that an adolescent's becoming is impaired by the attribution of illogical meanings and that educators should support the adolescent in such a way that he attributes logical meanings.

2.2.3.3. *Involvement*

Involvement refers to the human, physical and psychological act of being concerned with or of giving attention to a person, object or idea because a person wants to do so (Du Toit & Kruger 1993:17). Involvement has a normative component for it is only by involvement in the uplifting and normative (as the goal of becoming adult) that the child can become adult (Vrey 1979:38). Involvement may thus be defined as the psychic vitality with which a person pursues and realises his or her meaningful goal (Vrey 1979:37).

The intensity of involvement is observable in the intensity of the person's attention and interest, as well as the person's degree of perseverance and commitment and the amount of practice a person puts into his pursuit of a normative goal. Involvement therefore refers to a person's inherent, inner drive or need to learn and attain goals on his way to maturity (Gouws & Kruger 1996:05). This drive is present to a greater or lesser extent in everybody. The adolescent is inevitably involved in discovering and attributing meaning to assist his progress towards maturity.

Involvement, is not a passive state but one which is associated with and precipitated by action. It leads to identification with an object, event or person with a view to obtaining additional knowledge, information and understanding. Involvement therefore requires some measure of functional knowledge (meaning attribution), as a person cannot become involved in a matter about which he knows nothing and in which he has no interest. This tendency to action and functional knowledge, which signifies involvement, also requires the development of relationships. The quality of relationships indicates an emotional experience of fear or pleasure, success or failure, and interest or indifference that determine the intensity of his involvement (Gouws & Kruger 1996:05).

A lack of involvement manifests itself in an indifference, listlessness, lethargy and apathy towards a particular action. The adolescent may also become involved in what is pedagogically wrong, worthless and destructive (such as drug taking). A lack of involvement in the uplifting and that which is normatively positive, as well as an involvement in what is wrong and worthless impairs the child's becoming an adult. Supportive educational help is needed to direct the child's assignment of meaning and his will to involvement (Vrey 1979:38).

2.2.3.4. *Experience*

Experience is related to the emotional or affective dimension of being human and according to Vrey (1979:42) indicates an evaluation of a fluid situation in broad categories of pleasant and unpleasant. Meaning attribution entails becoming involved in relations, a process that continues as new relations are formed and existing ones are extended. Attributing meaning to and involvement with a particular situation (Raves), with an object (Ecstasy) or with some other entity entails affective experiences of some kind.

A feeling is the means whereby a person assigns value to the situation that he is experiencing. The experience of a feeling is therefore a subjective action by means of which a person assesses or evaluates a situation by placing it on a continuum, extending from pleasant (elation, success, satisfaction, excitement) to unpleasant (sorrow, failure, disappointment, frustration) (Gouws & Kruger 1996:05). Feelings experienced during involvement in a situation indicate how a person is emotionally affected by the situation. The experience of a pleasant feeling in the form of elation at a Rave for example, will heighten the intensity of the person's involvement and the extent of his meaning attribution, with the result that he will be more motivated to become and remain involved in the relationship formed.

Experience influences involvement in every significant action as well as the quality of the relationship formed (Vrey 1979:42). The boy who fails at school yet succeeds in popularity in the Rave scene by organising pills for his friends and taking Ecstasy himself may regard school as irrelevant, whereas he may regard himself as an accepted raver and drug dealing as a profitable occupation. From this, negative polarity emanates in his relationship with the school and positive polarity in his relationship with Raves. The experience of a situation results in the integration of the specific experience and the meaning which has been attributed to it, giving the meaning an individual-personal dimension (Vrey 1979:40). Van den Aardweg and Van den Aardweg (1988:83) note in this regard: "What I know another may know, but what I experience is unique to me." An event such as a Rave will be experienced differently by different individuals. Ecstasy use in the lives of different individuals will therefore be given different meanings and will be experienced uniquely by every individual person.

According to Vrey (1979:42), the educator's approval, praise of the child's success, his comfort and encouragement or his disappointment and humiliating reprimand when the child fails, determine the positive or negative intensity of the child's subjective experience and consequently the quality of his relationships. In order to become adult the child also needs educational help with regard to his experiences.

2.2.3.5. *Self Actualisation*

Self actualisation implies a person's deliberate efforts to realise all his latent potential (Vrey 1979:43), which encompasses all his domains of becoming, namely the physical, cognitive, affective, normative, conative and social. According to Du Toit and Jacobs (1989:26),

actualisation or realisation of his latent potential cannot take place without the individual's will to do so, without active participation in the process or without educational assistance.

Vrey (1979:43) believes that people have to rise above the apparent limitations of time, space and their physical and mental abilities, if they are to achieve self actualisation. This presupposes a realistic self concept incorporating objective self knowledge and evaluation of the self identity. This ability to transcend an immediate situation enables children to appraise themselves critically and to analyse and evaluate themselves (Gouws & Kruger 1996:07). Adolescents have a growing ability to conceptualise ideals and objectives that they would like to realise at a future date.

Gouws and Kruger (1996:07) and Maslow (1971) both maintain that the self actualising person is fulfilling his potentialities in the act itself, that educators should help children to become the best they are capable of becoming and that the basic driving force behind all human behaviour is the need for self actualisation. The need for self actualisation only becomes a top priority, however, once all other needs have been satisfied, at least to a reasonable extent. Vrey (1979:43-44) further notes the following conditions that must be met in order for children to realise their full potential and thereby become self-actualising people:

- * the availability of role models with whom the child identifies
- * a system of principles and ideals to choose from, and
- * a well ordered value system on which children can base their philosophy of life.

Various authors, Rogers (1965) and Gouws and Kruger (1996:08) note that everybody should be allowed to become involved in actions that represent the best possible opportunity for success on the individuals part so that they can become efficient in their own right. Children cannot attain full adulthood unless they realise their potentials. No-one can ever achieve ultimate self actualisation as it is a continuous process in the course of which people constantly transcend their own limitations. (Gouws & Kruger 1996:08).

In the light of this study, the following question concerning the adolescent and Ecstasy use arises: Can the adolescent who uses Ecstasy regularly achieve self actualisation ?

2.2.3.6. *INTERACTION BETWEEN ACTIVITIES REQUIRED FOR MATURATION*

Meaning attribution, involvement, experience, self concept formation and self actualisation are conditions for maturation that are closely linked up in a dynamic relationship. The way in which an adolescent experiences a situation influences the significance he attaches to it - for example, if he experiences Ecstasy as unpleasant, he will attribute a negative meaning to it and will not become spontaneously involved with it whilst participating in Raves. The interaction between the attribution of meaning, involvement, and experience as essential components of the intra-psychic structure of the psycho-educational theory, in particular the self concept, determine the person's behaviour, which in turn is crucial for his self actualisation (Raath & Jacobs 1993:34-5).

This combined effect can be represented as follows (Raath & Jacobs 1993:35):

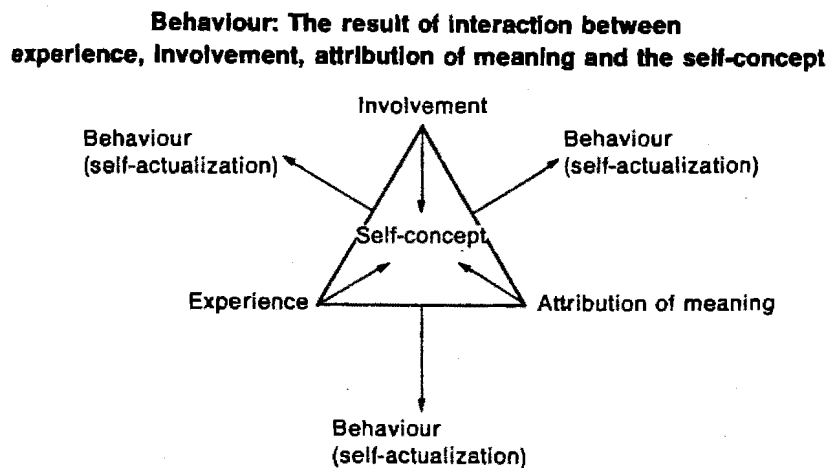


Figure 2.4: *Behaviour.*

According to Kruger (1992:27), the psycho-educationalist studies the educand's behaviour in order to expand his knowledge of the educand and with a view to directing the educand's educational accompaniment. He may therefore use significance attribution, involvement, experience and self actualisation as well as the intra psychic structure of the adolescent, as criteria for the study of Ecstasy use in adolescents. The psycho-educationalist also takes an interest in the educator's accompaniment of the educand on his way to maturity.

2.2.4. EDUCATION

Education refers to the help and support which the child receives from an adult with a view to attaining adulthood. Education supposes at least two people, the educator (an adult) and an educand (a child). The unequal state of becoming between the educator and educand rules out the possibility that one child can be educated by another (Du Toit & Kruger 1993:05). Furthermore, education supposes a deliberate and purposeful action whereby the educator educates the asolescent with a view to becoming an autonomous and responsible adult and a worthwhile participant of his society (Vrey 1979:03).

Education is an action that continues throughout life although the educational assistance (rendered by both primary and secondary educators) changes as the child grows up. Ultimately the child who is being educated must assume responsibility for being in the world. Schematically the educational process can be represented as follows (Vrey 1979:16):

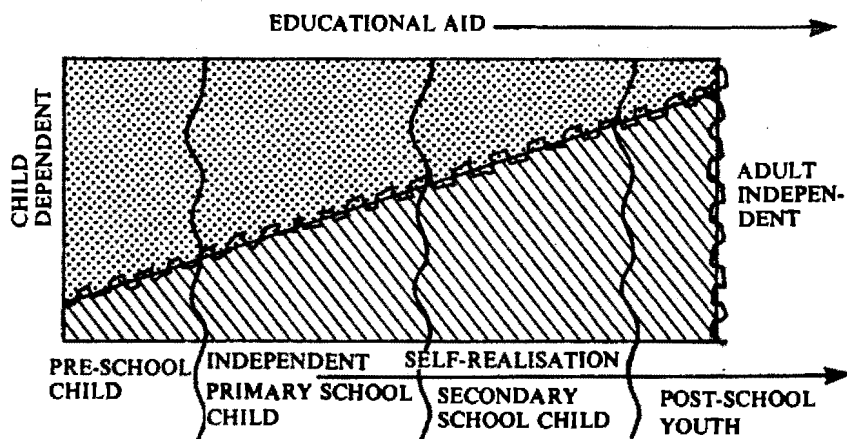


Figure 2.5 : The educational process

2.2.4.1. The Educand

The educand is the child who is not yet able to make autonomous choices, decisions and accept responsibility for these. In brief, the child is not yet adult but should become adult (Du Toit & Kruger 1993:04). On his own he cannot actualise his potential so as to become an independent, responsible, decent person capable of living a worthwhile life as human being. For this reason, he is dependent on adults as educators to educate, help, guide and support him in order to get to know himself as a unique person, to form his own identity and to realise his potential of becoming adult (Vrey 1979:12).

2.2.4.2. *The Educator*

According to Du Toit and Kruger (1993:02), the educator is an adult who knows and understands himself and is capable of making autonomous choices, decisions, acting responsibly and accepting responsibility for the outcome and consequences of his choices, decisions and actions. As educator, the adult is responsible for the child's education and accepts responsibility for that education.

Since an educator also has an important share in the child's becoming adult, he is also responsible to a large extent for the realisation of educational objectives. Therefore additionally, he has to account for the quality of the child's becoming adult (Vrey 1979:04). Furthermore, the educator is jointly responsible for the creation of an educational climate which is the condition for an encounter between the educator and educand (Jacobs & Vrey 1982:15).

It is important for the purpose of the present research to define the role of both the primary and secondary educator.

2.2.4.3. *The primary educator*

The parents are the child's primary educators as they are involved with his education from his earliest years. They fulfill a special role in the becoming and development of the child. Parents are an important component of the education situation and they are therefore a significant subordinate consideration in the formulation of the psycho-educational theory (Kruger 1992:27). Gouws and Kruger (1996:11) maintain that family education lays the foundations for all later education. It serves as a reference framework for the contracting of all other social relations. Under the influence of his experiences in this first relationship, the child assigns meaning to and becomes involved in other relations.

Since the adolescent seeks independence from his parents, his parents must be prepared to play a gradually changing role in his life. The adolescent undertakes to loosen his ties with his parents or emancipate himself from them, but despite outward boldness and self assurance he still needs the support and accompaniment of his parents continuously. However, the adolescent who possesses the required emotional stability will be prepared and will have

sufficient self-assurance to make independent decisions and develop independent relations with increasing frequency (Kruger 1992:28).

The acquisition of independence is an important developmental task of the adolescent since without it he can hardly hope to engage in adult relations, make a realistic choice of occupation, develop a personal value system and an identity or to recognise in himself a unique, autonomous individual (Thom 1990:447). It is therefore essential that the degree of independence which the adolescent wishes to achieve be synchronised with the allowance of independence by the parents. In his relationship with his parents, therefore, the adolescent must act with increasing independence and an increasing acceptance of personal responsibility for himself and his actions, while the parents must allow him to assume increasing responsibility. Although the parent still plays a major role in decisions affecting the child's future, the adolescent handles an increasing number of routine tasks affecting his life (Kruger 1992:28).

Emancipation from his parents often imposes considerable stress on the adolescent, but it is not only the child that is affected by the change and loosening of ties taking place in the parent child relationship during his adolescence. The parents also have to adapt to the becoming and independence of their child and they have to adapt their educative efforts accordingly. Some parents experience considerable difficulty in this regard with the result that misunderstandings and clashes occur between parents and their adolescent children. The child's adolescent years may be a considerable source of stress for both his parents and himself if, in the course of his becoming, disruption of the educational relationship gives rise to problems for him or his parents (Kruger 1992:28).

2.2.4.4. *The secondary educator*

At first the child's parents or their substitutes are responsible for his education. When the child enters school, the educational help and support of the parents who remain primarily responsible for his education are complemented by that of his teachers. The child's teachers, as co-educators, are jointly responsible for the child's total education and are not merely responsible for the teaching of certain school subjects (Du Toit & Kruger 1993:02). Gouws and Kruger (1996:11) note in this regard, that the teacher as educator, has the task of

unfolding the influences of the human life world by various means so that the learning child will benefit from these on his way to a worthy maturity.

As an adult with whom the child identifies and who he copies closely, the teacher is co-responsible for the child's becoming. Initially, the teacher gradually displaces the parent as an identification figure and role model and acts as a surrogate parent during the long hours (Du Toit & Kruger 1993:125). During adolescence however the teacher's role as surrogate parent gradually diminishes as he becomes a companion and leader instead (Kruger 1992:29).

The child's parents (primary educators) and his teachers (secondary educators) have the greatest share in the child's education and the quality of his becoming adult. Primary and secondary educators support and strengthen each other and should stand together rather than in confrontation where the child's education is concerned.

In order to fulfill their role as primary and secondary educators effectively, parents and teachers must constantly endeavour to create a harmonious educational climate between educator and educand. Where the education event between educator and educand goes amiss, reference is made to a disharmonious educational dynamic (Van Niekerk 1984:129). The educator must take the initiative to restore the necessary harmonious climate or relationship, so that the educational relationship can meet the psycho-educational prerequisites for a positive educational climate.

2.2.4.5. *The educational climate*

Both Kruger (1992:31) and Jacobs (1987) argue to the fullest extent that the educational climate should be integral to the relation between any educator and any educand and not only between parents and children. The components of the educational climate are briefly as follows:

*** *Love***

The parent-child relationship is based on love. The teacher as a secondary educator also displays love for the child which is consistently recognisable as affection, rapport and self sacrifice. Gouws and Kruger (1996:12) assert that adolescents do not expect mollicoddling love from educators- rather they want respect. Children who do not receive love and respect

experience the world as harsh and unforgiving, with the result that they display resentment against anything and everything from an early age.

* *Knowledge*

A loving relationship between two persons cannot truly begin before they know each other. The educational climate therefore calls for a relationship founded on acquaintance. Parents must know and understand their children and must be intimately involved with their problems and their achievements. Secondary educators must accompany the child further on his educational path and must therefore be acquainted with the educand in his world, with the world of the adult and with the method of accompanying the educand. Similarly the educand must know the educators in order to love them, while educators must instil a sense of security if they are to be accepted by the educand (Gouws & Kruger 1996:12).

* *Care*

Knowledge of the other person goes hand in hand with care. To become acquainted with each other the educator and educand must care for each other. In the educational climate however, care involves far more than the provision of nourishment and clothing. It entails caring-in-totality, that is to say, being concerned about the child's well being, joys, sorrows and health (Vrey 1979:95).

* *Respect*

Respect means the acceptance of one by the other for what he is, in an active positive sense. Respect implies the recognition of the uniqueness and integrity of the other without wanting to shape him according to one's own image. Respect means that neither will violate the others human dignity and integrity by mocking, belittlement or sarcasm (Vrey 1979 :96).

* *Trust*

Trust is a basic prerequisite for healthy and satisfactory inter personal relations (Vrey 1979:97). Gouws and Kruger (1996:13) maintain that mutual trust is a particularly prominent feature of the relationship between the educator and the adolescent. Adolescents who know that their educators trust them will do everything in their power to retain such trust because it gives them a sense of security and the confidence to accept the challenge to reach out to things and people and broaden their horizons.

* *Responsibility*

Vrey (1979:96) asserts that educators accept responsibility for their educand's maturation because they love them. In turn educators inculcate a sense of responsibility in their charges. Adolescents already have a well developed capacity for acting responsibly and taking responsibility for their own choices and actions. Authority is integral to responsibility. The educator himself or herself has to bow to authority and in turn accompanies the educand towards accepting authority. Responsibility and authority are therefore inherent in pedagogic situations (Gouws & Kruger 1996:13).

The child's whole existence is affected negatively if his primary and secondary educators do not create a space where he can feel safe and secure and if he does not receive the love, affection, acceptance, understanding and guidance he needs (Van Niekerk 1984:128). In such instances the child makes himself noticeable by engaging in unacceptable activities and behaviour that ultimately undermine his self concept and self actualisation.

Gouws and Kruger (1996:13) note that the onset of adolescence is often marked by disturbance of the educational climate, which results in conflict between educator and adolescent. Often this conflict is temporary so that eventually the relationship between educator and educand effectively becomes one of mutual respect between two adults.

In the next section concepts relating to the adolescent and adolescence are explained and the becoming and development of the adolescent are briefly reviewed.

2.3. THE ADOLESCENT

2.3.1. *The period of adolescence*

According to Modell and Goodman (in Barnes 1995:289): "Adolescence is, among other things, an organised set of expectations closely tied to the structure of adult society. It stands out from the other stages of human development as a period of preparation rather than fulfillment... Adolescence is a phase of imminence that is not quite imminent enough, of emergent adult biology that is not yet completely co-ordinated with adult roles, of hopes that are not yet seasoned by contact with adult reality and of peer culture and society that mimic those of adults but are without adult ambitions or responsibilities. Adolescents are in a state of preparing themselves for adulthood by experimenting, studying, resisting or playing."

This brief account identifies some important features. The first is that adolescence is defined both biologically and culturally. In terms of biology, profound physical changes take place during the adolescent years, in particular puberty. In terms of culture, societies define the expectations, tasks and roles for this period of life. As Modell and Goodman (in Barnes 1995:289) point out, it is the structure and expectations of adult society that set the framework of a more prolonged transition from the dependence of childhood to the relative autonomy of adulthood. One reflection of this is the ages at which young people are deemed legally competent to take on particular “adult” responsibilities such as voting, marriage and parenthood. Adolescence, then, may well be an experience extended over time and this can result in some difficulties of definition when the activities and characteristics of quite different age groups are labelled with the single term. For this reason a distinction between early, middle and late adolescence is necessary.

Marked by the major physical changes of puberty and important cognitive and social developments, adolescence is generally considered to begin around age ten and end sometime around age twenty-two. Early adolescence lasts roughly from ages ten to fourteen including the junior high school years. Middle adolescence, ages fifteen through seventeen, includes the high school years. Late adolescence occurs between ages eighteen and twenty-two (Seifert, Hoffnung & Hoffnung 1997:333).

2.4. *PHYSICAL DEVELOPMENT IN ADOLESCENCE*

In most children the onset of adolescence is marked by a “growth spurt” and a whole range of pubertal changes that are divisible into external bodily changes and internal physiological changes. With due allowance for considerable individual differences pertaining to onset and intensity, the following pubertal changes can be noted as universal for adolescents (Kruger 1992:37-38):

- ♦ rapid increase in body height and weight

- ♦ accelerated growth of lungs and a decline in basal metabolism

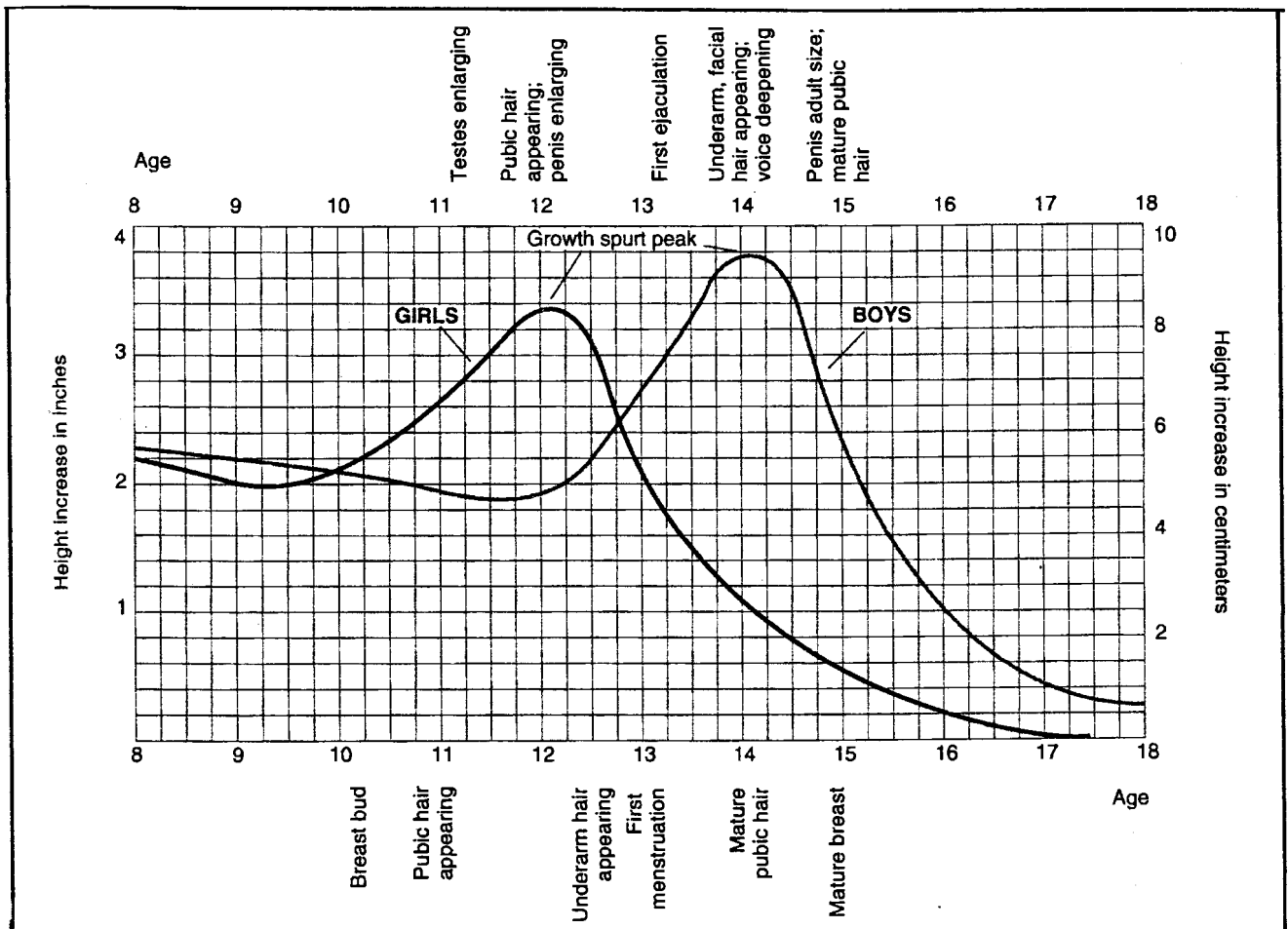
- ♦ hormonal changes which stimulate the forming of mature sperm (testosterone) and ova (oestrogen) that lead to sexual maturity

- ♦ development of primary and secondary sexual characteristics

(Primary sexual characteristics take the form of the penis, testes and prostate gland in boys, while the female counterparts are the vulva, vagina, uterus and ovaries. These organs enlarge and mature during the growth spurt. Secondary sexual characteristics include male facial hair, female breasts, pubic hair, changes in skin texture and voice, Gouws & Kruger 1996:18)

- ♦ increasing sexual needs.

Figure 2.6 : Graph reflecting physical development in adolescence (Seifert et al 1997:337).



Puberty involves a number of specific changes in both boys and girls, as this graph shows. One of the most obvious changes, the “growth spurt” occurs significantly sooner in girls than in boys. But as with trends in final adult size, many individual exceptions exist.

Kruger (1992:38) notes that in some cases, the adolescent is a fascinated or even shocked observer of these changes in his body. He consciously takes note of these changes and assigns his own meaning to them, which profoundly influences his experiences of and involvement with his body. His experience of these changes is often characterised by feelings of wonderment, pride and joy as well as feelings of uncertainty, shame and aversion. The

meaning attached by the adolescent to pubertal changes and therefore to his body depends to a considerable degree on such factors as early or late bodily maturation, menstruation, erection, ejaculation and nocturnal emissions, breaking of the voice, acne and obesity (Gouws & Kruger 1996:20-24).

The drastic and rapid changes of the body, in combination with the above factors, frequently lead to problems and stress for the adolescent. "Am I normal?" is a question frequently asked by adolescents as they constantly worry about the way they look. The adolescent is intensely aware of his body and worries whether it will develop naturally and acceptably. Kruger (1992:39) observes that irregular growth or asynchronism causes awkwardness and the adolescent frequently seems uncoordinated and all arms and legs.

The first menstruation can be a traumatic experience for a girl who is not prepared for it, while nightly semen emissions, which are beyond his control, can be a source of shame, humiliation, uneasiness and guilt feelings to a boy. Both sexes are upset by the presence of acne because of the adolescent's sensitivity about things that affect his appearance. Obesity, which tends to be not only a general result but also a cause of negative psychological factors can also damage the adolescent's self image. The adolescent also has to learn to express and seek fulfillment of his sexual needs in a socially acceptable way so that his sexuality will make a positive contribution to the development of his identity. His new found sexuality also has to be integrated into his interpersonal relationships.

In order to develop a sense of identity the adolescent must accept the changes in his body and integrate them to form a unity. Moreover, he has to retain a sense of continuity, that is, the feeling that he is still the same person (Mussen et al 1990:576). The particular way in which the adolescent perceives his body - whether distorted or not - may therefore have important psychological consequences and may impede or enhance the forming of his self-concept, which is also influenced by what he considers to be other people's perception of him. This is why the adolescent finds it extremely humiliating to be the object of jokes. He is particularly concerned about the impression he makes on his peer group and therefore conforms not only to the social behaviour of the group, but at times also to their norms with regard to physical appearance and accomplishments. The degree to which the adolescent meets these criteria

often determines how the group will behave towards him and how he will perceive and evaluate himself.

Physical changes are probably among the most critical and difficult for the adolescent to cope with. They not only affect the forming of his identity and body-image but also his self-esteem. Adolescence is therefore a critical period for the development of the self concept (Kruger 1992:39).

2.5. COGNITIVE DEVELOPMENT OF ADOLESCENTS

There are important cognitive changes in adolescents, including an increasing self-consciousness and social understanding which enables young people to think and reason about themselves, their world and their relationships.

Adolescence is a time of transitions and in approaching most of life's transitions, people seek information about what is about to happen and strive to organise their understandings as events unfold (Durkin 1995:511). For adolescents, the search for information about the self and the future is associated with major new developments in reasoning capacity. Piaget (1972:01) viewed adolescence primarily in cognitive developmental terms, representing it as the final, formal operational stage of his model of intellectual development.

Piaget (1972:04), in his influential theory of cognitive development, pointed to the age of 12 as the time when children begin to move from the stage of concrete operations into the fourth and final stage of formal operations. This stage is characterised by the appearance of the ability to produce and explore hypotheses and to think about what might happen rather than being constrained by the here and now. According to Barnes (1995:290), further features of this adolescent thinking are that it can accommodate more than one dimension; it can regard knowledge as being relative rather than absolute; and it can incorporate self-reflection and self-awareness.

Although research has shown that children younger than 12 years old demonstrate these features of adolescent thinking under certain conditions, and although by no means all adolescents- or adults for that matter- use them in appropriate situations, there does appear to

be a qualitative shift in the modes of thinking they spontaneously employ. This underlies developments in other areas of adolescents' lives as well.

According to Keating (in Barnes 1995:292), "Issues that have never or rarely been considered by the adolescent will take on enlarged significance and meaning. Topics of identity, society, existence, religion, justice, morality, friendship are examined in detail and are contemplated with high emotion as well as increased cognitive capacity. The spark for such consideration is not purely cognitive, ofcourse; there are many lines of development converging with special significance for the adolescent. But at least some of the motivation for this stretching and breaking of old limits is probably cognitive in the purest sense: 'Cogito ergo sum' (I think therefore I am). In addition the skills that can be applied to the task are much sharper, which makes the enterprise all the more exciting and attractive."

Table 2.1: Piaget's cognitive stages and developmental processes (Gouws & Kruger 1996:47).

<i>Phase</i>	<i>Age</i>	<i>Characteristics</i>
Sensory motor phase	0-2 years	Functioning changes from a reflex level to a goal directed activity. Characterised by sensory and motor adaptations. Begins to make use of memory, thought and imitation.
Pre - operational phase	2-7 years	Ability to represent matters intellectually or symbolically. Language development is central. Does not readily see other people's point of view. At approximately 4-7 years of age, stage of intuitive thought.
Concrete operationanl phase	7-11 years	Capable of cognitive acts concerning concrete, real matters. Understands laws of conservation and is able to classify and seriate. Understands reversibility.
Formal operational phase	11-15 years	Capable of carrying out formal operations, can think abstractly and logically. Can handle possibilities and hypotheses, thought is more scientific. Develops concerns about social issues and identity.

2.5.1. Characteristics of the formal operational phase

The characteristics of the formal operational phase to be discussed here are abstract thought, propositional thought, hypothetical-deductive thought and interpropositional thought (Gouws & Kruger 1996:48-51).

2.5.1.1. *Abstract thought*

Adolescents who have progressed to the formal-operational phase are capable of abstract thought, dealing with abstract concepts and understanding abstract relationships.

For example:

- ♦ They think and reason about concepts such as love and hate, justice and injustice.
- ♦ They grasp relationships between such concepts as mass, energy and force.
- ♦ They begin to question the rationales, intentions and behaviours of other people. Social, political and religious systems are especially questioned and examined. The adolescent in the concrete-operational phase is more dependent on direct personal experience and his comments on any issue will be less worldly-wise than those of the adolescent who is capable of formal-operational thought.
- ♦ Their spatio-temporal mobility is more advanced. They are capable of projecting into the past and the future and of creating new, original situations.
- ♦ They are much more critical about themselves and constantly measure themselves against ideal models or against the peer group. They are capable of reflecting on their own ideas and try to enter the conceptual world of others. They are extremely sensitive about the impression they make on others and they want to be part of the group. They are egocentric in that they think others are just as preoccupied with them as they are with themselves. This egocentricity differs from that displayed in the concrete-operational phase in that they persuade themselves that others share their favourite concerns. They also create a personal fable for themselves in which they are the leading figures that are uniquely unlike other people.

Egocentricism usually wanes towards the end of adolescence when adult roles and responsibilities are accepted. The most notable deficiency in the cognitive processes of the adolescent whose thinking is still in the concrete-operational phase is the absence of abstract thought.

2.5.1.2. *Propositional thought (the real compared to the impossible)*

Piaget (1972:04) maintains that the possible is primary and the real secondary for the adolescent in the formal operational phase. Adolescents in this phase are concerned with “can” or “maybe” rather than the former sole concern with actuality. Questions concerning the future now acquire immediacy and certain accepted facts are investigated, hypotheses are formulated and deductions are made. The adolescent is therefore analytical, tries out alternative problem-solving methods and consequently has more dynamic thought processes, takes longer to reach decisions and engages in long conversations and arguments about decisions.

By contrast, concrete-operational adolescents cannot contemplate and deal with hypothetical and futuristic problems and they tend to adhere rigidly to a particular problem solving method even if the correct solution cannot be found.

2.5.1.3. *Hypothetical-deductive/combinatory thought*

Adolescents capable of hypothetical-deductive thought, can systematically isolate all the variables involved in solving a problem and then combine them to determine their individual or combined influence. They are therefore capable of hypothetical-deductive reasoning as against the empirical deductive reasoning of younger children whereby factual information is reduced to general statements.

Adolescents who have reached this phase are capable of formulating and testing hypotheses, after which results are compared. By contrast, the adolescent in the concrete-operational phase tends to be unsystematic in dealing with a problem.

2.5.1.4. *Interpropositional thought*

Adolescents who have progressed to the accomplishment of interpropositional logic are capable of testing for logical consistency and of identifying inconsistencies between statements (propositions). For example: All ravers take drugs. Rob is a raver. He will therefore take drugs. Interpropositional logic enables the adolescent to test these statements and therefore to conclude that statements are not invariably true. Despite the logical validity of the statement, all ravers do not take drugs. In addition to testing verbal statements, adolescents who attain this accomplishment understand relationships, whether direct or indirect.

From the above one can deduce that many adolescents are not yet in the formal operational phase. In the following paragraphs the influence of the adolescent's cognitive development on his development in other domains is discussed.

2.5.2. THE EFFECTS OF COGNITIVE DEVELOPMENT

2.5.2.1. *Development of an implicit personal perspective and self concept*

At the formal-operational stage of cognitive development the adolescent can think in a complex way about himself and other persons. He is highly critical and analytical both about himself and about other people, including his parents. In his evaluation of a person he is capable of seeing beyond what is superficially observable. This observation and analysis of himself and others often makes him mete out harsh criticism to whatever comes under his scrutiny, including himself. He also becomes aware of how things are and in what way they could have been different. This gives rise to mood swings from depression and dissatisfaction to joy and happiness (Thom 1990:424). The adolescent's ability to contemplate himself introspectively is therefore important for the development of his self-concept and sense of identity (Gouws & Kruger 1996:53).

2.5.2.2. *Egocentricism*

Some researchers (Schickendanz, Hansen & Forsyth 1990:607 and Seifert et al 1997:360) emphasise the influence of a form of egocentricism on the personality and behaviour of the adolescent. Durkin (1995:512) notes that as the adolescent gains an increasingly sophisticated understanding of the way the world works, so he becomes immersed in his own new insights. One consequence is that he attaches excessive weight to these and fails to appreciate that other people may have their own, different theories and concerns. Although the adolescent recognizes the thoughts of others "he fails to differentiate between the objects toward which the thoughts of others are directed and those which are the focus of his own concerns" (Elkind 1967:184).

According to Elkind (1967:186) adolescent egocentricism manifests in the creation of an imaginary audience and personal fable .

[1] *Imaginary Audience*

Since adolescents are preoccupied with their own thoughts, appearance and behaviour, they imagine that other people are just as preoccupied with their appearance and behaviour as they are. They therefore react to an imaginary audience- a sense of being on show, with the rest of the world focused on their thoughts, feelings and behaviour. Consciousness of the imaginary audience often gives rise to intense self-consciousness, shyness and also a need for privacy (Kruger 1992:41).

Elkind (1967:186) points to the heightened self-consciousness of young adolescents as an indicator of the validity of this concept. Adolescent preoccupation with style of dress, physical stature, acne, encouragement or eradication of bodily hair, dancing around in ones bedroom pretending to be a rock star surrounded by delirious fans, could all be interpreted as tokens of the same perception that other people are watching and evaluating. Although the content may be banal, the process is important, because it suggests one of the ways in which anticipation of others' scrutiny may influence our social behaviour (Durkin 1995: 512).

[2] *Personal Fable*

The young person is so preoccupied with his own thoughts and significance to an imaginary audience that he develops a sense of personal uniqueness and permanence. This gives rise to the egocentric belief that one is above many of the world's mundane demands and risks: "I am different," "It won't happen to me," "I won't jump through society's hoops," (Durkin 1995: 513). Adolescents' dangerous urge to disregard normal, safe behavioural limits is encouraged by an implicit and naive belief in a myth of their own invulnerability. This myth originates from the adolescents typical self-centred perception of reality and it is referred to as a personal fable. Adolescents believe that they are special, that bad things only happen to others. They feel they are immune, exempt, even immortal (Schickendanz et al 1990:607).

Personal fable beliefs can be the underlying reason for some of the reckless, seemingly self destructive behaviour that is typical of adolescents. Their licentious experimentation with alcohol, drugs and sex is based on the belief that nothing untoward can happen to them (Kruger 1992:42). It is this general belief that he is exceptional that makes an adolescent believe that no-one has ever loved as he does, or that no one has ever experienced so much agony over the break up of a love affair. Another may believe she is destined for great fame

and fortune by virtue of what she considers to be her unique combination of charm and academic talent (Seifert, Hoffnung & Hoffnung 1997:362).

However, not all adolescents seem equally egocentric, and even those who do, show this quality only when compared to adults, not to younger children. Investigations of adolescents' belief in an imaginary audience show that adolescents are just as likely to develop greater empathy or interpersonal sensitivity during this developmental period as they are to develop self-centredness (Lapsley 1991:283). Accurate awareness of others' opinions about oneself apparently develops alongside, and sometimes even instead of, self-conscious preoccupation with others' opinions. The relative balance between these two developments depends, among other things, on the quality of relationships between parents and the adolescent: closer and more supportive relationships lead to greater realism and less self-consciousness.

Incorporating the cognitions of other people's views may be especially salient during this phase because of heightened intellectual powers, but the tendency may never be entirely lost. Even adults tend to anticipate others' reactions to their appearance, ideas, possessions and behaviour, attributing to "them" greater interest than they may actually sustain (Durkin 1995:513).

2.5.2.3. *Idealistic Rebellion*

Adolescence is the period during which adolescents begin to assume adult roles. They consider themselves as equal to adults and judge adults with complete reciprocity on the same plane as themselves (Rice 1984:184). Although they see the world as it really is they also envisage the world's possibilities. Therefore they often lost sight of reality and utopian solutions are proposed for the world's problems. Adolescents may rebel against existing norms, values and the like if their educators fail to empathise with their idealism (Kruger 1992:42).

2.5.2.4. *Decentering and a Life Plan*

Adolescents contemplate their future and how they can change society, with the result that they cannot differentiate between their own life plan and the interests of the group they want to reform (Gouws & Kruger 1996:54). According to Monteith, Postma and Scott (1988:140) decentering or relinquishment takes place as adolescents develop greater cognitive objectivity

and a better sense of perspective. They therefore begin to adopt a more realistic life plan. Improved reasoning enables the adolescent to “cure” himself of his idealism and return to reality. The adolescent begins to establish his life plan and begins to assume a more adult role. However, decentering and consequent realism may render the adolescent cynical about reality.

2.5.2.5. *Parent-Child Relationship*

Adolescents' increasing independence and ability to solve their own problems cause conflict between themselves and what their parents think is right and good for them. Whereas they obediently believed what their parents told them and accepted their decisions as younger children, they now weigh the possible against reality. They become aware of differences between the supposed values and actual behaviour of their parents and no longer idealise them. Since in their view reality often falls short of the ideal, they sometimes rebel against their parents and society as a whole (Gouws & Kruger 1996:54).

2.6. THE AFFECTIVE AND PERSONALITY DEVELOPMENT OF THE ADOLESCENT

According to Seifert et al (1997:334-335) there are two somewhat conflicting views about the basic nature of adolescence. One view sees adolescence as a time of “storm and stress,” a period when major physical, intellectual, social and emotional changes create tremendous distress and crisis within the individual and conflict between the person and society. Kruger (1992:43) contends that the reason why adolescence is typified as a storm and stress period is usually the intense experience of extreme emotions, emotional outbursts or at least emotional tension. The adolescent's affective life is consequently characterised by heightened emotionality which is expressed in his relations.

Affective development consists of the development of such aspects of personality as emotions, feelings, passions, moods, sentiments and whims. It is thus the expression of the total human being as he develops under the influence of hereditary and environmental factors (Gouws & Kruger 1996:94). Educators, his peer group, social expectations and other aspects of development influence the adolescent's emotional experience.

According to Monteith et al (1988:83) the most important causes of heightened emotionality in the adolescent derive from his interaction with and adaptation to the environment:

- ◆ adaptation to new situations that differ from those occurring in the child's experiential world
- ◆ excessively high standards of maturity expected of the adolescent by society
- ◆ unrealistic aspirations that lead to feelings of inadequacy
- ◆ demands of social situations and relations with the opposite sex
- ◆ school problems and realisation of the importance of teaching undergone at school and of academic progress
- ◆ problems with choosing a career, which lead to apprehension
- ◆ obstacles in the way of identifying with the peer group
- ◆ troubled family relationships.

Current research however, suggests that adolescence is not intrinsically a time of severe "storm and stress" in personality development or in relationships with parents. Most adolescents adapt to the changes in themselves quite well and adjust to the changing demands and expectations of parents and society in a relatively smooth and peaceful way (Seifert et al 1997:335).

While adolescence is not an unusually problematic period for most youngsters, the onset of adolescence is associated with more frequent negative feelings among many adolescents and increased rates of behavioural and psychological problems for some. Eccles et al (1993:97) maintain that adolescents have the highest arrest rate of any age group and that a growing number of adolescents use alcohol and drugs on a regular basis. How negative or positive the changes associated with adolescence are likely to be, will depend on the degree of fit between adolescents' developing needs and the opportunities offered them by their social environments, school and home being two of the most important. Furthermore, the increased stress some adolescents experience may be due not simply to the external environment but also to the developmental changes in adolescents' subjective construction of their environments (Larson & Ham 1993:136).

Although adolescence is not inevitably a period of storm and stress, a variety of problems nevertheless tend to emerge during this phase. Some problems seem to arise from the adolescent's increasing independence, his curiosity, his interest in new and unfamiliar experiences, his daring and tendency to take risks, or his tendency not to consider the point of

view of others or the consequences of his actions (Schikendanz et al 1990:642). Other problems seem to stem from pre-existing psychological problems, poor self concept, inadequate ways of handling anger and aggression, alienation from family and society, the stresses of puberty and changes in family situations. It is not always clear whether the adolescents' problems are caused by his emotional instability or vice versa (Gouws & Kruger 1996:97).

Turner and Helms (1987:304) list the following as common problems which occur during adolescence:

- ♦ drug and alcohol abuse
- ♦ dropping out of school
- ♦ juvenile delinquency
- ♦ suicidal tendencies
- ♦ anorexia nervosa and bulimia
- ♦ running away from home

Extreme aggression, feelings of uncertainty, feelings of martyrdom, excessive daydreaming, regression to previous behaviour patterns and excessive use of defence mechanisms are only a few of the danger signals that serve as an indication that the adolescent is struggling emotionally or is unhappy or maladjusted. Educators should be on the lookout for any signs of emotional imbalance, deviant behaviour and affective problems in the life of the adolescents (Gouws & Kruger 1996:97).

2.6.1. Occurrence of Negative Emotions during Adolescence

The adolescent's capacity for formal operational thinking improves not only his ability to exercise effective control over his environment but predisposes him to self-criticism and comparison of what he perceives himself to be with the image others have of him. When he perceives a difference between his self concept and the image of himself that others have of him, he may experience feelings of anxiety (Kruger 1992:45). According to Conger and Peterson (1984:53) anxiety is a central determinant of behaviour because it engenders thoughts, emotions and reactions that militate against the satisfaction of another need. An example of this, is the adolescent who has an aversion to the unrealistic demands of his parents, but fears that he will forfeit their love if he fails to conform to their wishes.

The following factors can cause feelings of anxiety during adolescence (Conger & Peterson 1984: 53):

- ♦ the possibility of committing misdemeanors that may have harmful consequences for him
- ♦ fear of losing self control
- ♦ fear of his own aggression
- ♦ anxiety about sexuality
- ♦ fear for his reason- incomprehension of own feelings can arouse apprehension that he may be abnormal
- ♦ anxiety about acceptance by peer group
- ♦ anxiety about personal adequacy
- ♦ anxiety about his physical self-image
- ♦ anxiety about sexual identity
- ♦ anxiety about personal values

Apart from anxiety and fear the adolescent is also a frequent prey to other negative feelings, such as depression, jealousy, rage and aggression.

2.6.2. Self Identity

Self identity is the developmental stage associated particularly with adolescence. It is really the sum total of the concepts individuals have about themselves. According to Erikson (in Fontana 1988:248), self identity infers that these self concepts should band together in a coherent way and give individuals some reasonably complete picture of the kind of people they are to become. This kind of coherence usually begins to emerge at adolescence and is referred to as ego synthesis.

Adolescence also marks the emergence of more mature life goals. Up to this time individual children will normally have had few clear life goals, not only in terms of their future vocations but in terms of their ideal selves, the kind of people they would like to become. Life goals are closely linked to the sense of identity, to the sense that "This is the person I am, these are my abilities and my values, and this is what I want to do with my life," (Fontana 1988:249).

The search for self identity in adolescence is often accompanied by a great deal of experimentation. Society grants the adolescent a period known as the psychosocial

moratorium during which he can discover himself and his role as a future adult (Gouws & Kruger 1996:86). The adolescent tries out a number of different forms of behaviour as if asking, "Which of these different kinds of people is really me?". To help this process he or she will often adopt role models (friends, older people, teachers, pop stars) whose life styles and whose values are deemed worthy of imitation. Since identity is often expressed through the groups to which one belongs, the peer group also becomes very important, and adolescents may change their behaviour (clothes, speech and habits as well as values and opinions) in order to be accepted by it (Fontana 1988:249). Since acceptance by the opposite sex is also important, behaviour considered to make one sexually attractive may also be adopted.

2.6.3. Understanding the Adolescent

It will be recalled from Piaget, that cognitively the adolescent has achieved the stage of formal operations and is therefore able to reason in abstract terms. As a consequence, many of the concepts associated with politics, religion and social relationships begin to take on a deeper and more complex meaning and adolescents often call into question the activities and policies of the adult generation in these important areas. Since they may find such activities and policies inadequate and wish to see them replaced by more just practices, adolescence is often described as a period of idealism, and this idealism may also be reflected in the kind of life goals that the adolescent chooses at this point. For example the Rave philosophy / idealism of PLUR - peace, love, unity and respect. These goals may later have to be modified in the light of experience but for the present the adolescent may feel passionately about them and resent the apparent inability of elders to understand if not actively share this passion.

Fontana (1988:251) points out that the breakdown of understanding between the adult and the adolescent is also sometimes apparent in the adults' inability to recognise that in spite of their apparent assurance, adolescents are often prey to insecurity. While they search for identity, they are never sure that the people they are becoming will prove acceptable and successful in the adult world. They have learnt to cope with being children, but now they have to find out whether they can cope with being adults. Thus although they may seem unimpressed now by parents and teachers, the support and good opinion of such people is still vital to them. Educators who work well with adolescents seem aware of this fact and are often able to create a relationship with them which the latter will one day come to regard as amongst the most formative of their lives.

2.6.4. Erikson's Theory

Erikson (1968:198) described identity as a complex inner state that includes the person's sense of individuality and uniqueness, as well as a sense of wholeness and continuity with the past and the future. He used the term identity crisis to refer to the confusion and despair people feel when they lack a strong sense of identity. Many adolescents have gone through periods in their lives when they felt uncertain about themselves, their values or their direction in life, when they were no longer sure that what they were doing held any value for them. These experiences with identity crises are typical in adolescence but are by no means limited to young people. Many middle aged people have gone through similar trying periods (Burger 1993:124).

Although identity crises occur at any time, Erikson (1968) believed that they are more likely to occur when certain social conditions shake the basic foundation of people's lives. For example, South Africa is undergoing rapid social change and drastic rearranging of political and social power all can lead to a loss of stability, a threat to personal values and feelings of uncertainty. Some people have argued that the rapid changes in today's society may leave us particularly vulnerable to identity crises. But as Erikson (1968:104) reflected: "Times of change.....what other times are there, in our memory?"

Erikson maintained that personality development continues throughout a person's lifetime. He outlined eight different stages that he believed we all progress through, each crucial in the development of personality. According to Erikson each of these eight stages is present in some form at birth. However, each becomes important during a specific period in our lives, marked by a turning point, or crisis, in personality development. How we resolve each of these crises determines the direction our personality development will take and influences how we resolve later crises. Each stage is characterised by two alternative ways to resolve the crisis. One of these is adaptive, but the other can lead to adjustment problems.

Erikson's eight stages of development are as follows (Burger 1993:127):

- | | | |
|----|-----------------------|---------------------------------|
| 1. | Infancy | Trust versus mistrust |
| 2. | Toddler | Autonomy versus shame and doubt |
| 3. | Early childhood | Initiative versus guilt |
| 4. | Elementary school age | Industry versus inferiority |

5.	Adolescence	Identity versus role confusion
6.	Young adulthood	Intimacy versus isolation
7.	Adulthood	Generativity versus stagnation
8.	Old age	Ego integrity versus despair

For the purpose of this study, the adolescent phase of identity versus role confusion will be examined.

2.6.4.1. *Identity versus Role Confusion*

The child reaches adolescence, a time of rapid changes and relatively short preparation for adulthood. The adolescent years may be the most difficult time of life. The turmoil of transcending from playground concerns and simple solutions to a sudden bout with life's important questions can be disturbing, even cruel. Young men and women begin to ask the all important question "Who am I?". If the question is answered successfully, they develop a sense of identity. They make decisions about personal values and religious questions. They understand who they are and can accept and appreciate themselves. But unfortunately, many people fail to develop this strong sense of identity and instead develop role confusion (Burger 1993:129).

According to Fontana (1988:251), role confusion implies that individuals have no clear idea of the kind of people they are or of the role that they should assume in life. They may show several different selves, low self esteem and insecurity or even the uncertainty and the constant self doubt and self questioning that is a feature of some kinds of neurotic behaviour. In this search for identity, adolescents may join cliques, commit to causes or drop out of school and drift from one job situation to another (Burger 1993:130). For example, an adolescent struggling with role confusion may bounce from Christianity to alcohol and drugs, to Eastern religions and to social causes, all during his student years in an effort to "find" himself.

Havighurst (in Kruger 1992:52) notes that the adolescent has to master the following tasks in order to overcome the identity crisis:

- ♦ Accepting one's physique and using the body effectively
- ♦ Achieving new and more mature relations with age-mates of both sexes
- ♦ Achieving a masculine or feminine gender role

- ◆ Achieving emotional independence from parents and other adults
- ◆ Preparing for a career
- ◆ Preparing for marriage and family life
- ◆ Desiring and achieving socially acceptable /responsible behaviour
- ◆ Acquiring a set of values and an ethical system as a guide to behaviour (developing an ideology).

Not all researchers endorse the perception of an identity crisis or of major shifts in self-concepts in the adolescent years (Rice 1984:224). But although not all adolescents experience an identity crisis, most social scientists agree that an identity search and new self-discoveries characterise adolescent psycho-social development (Schickendanz et al 1990:663). It seems therefore that all adolescents seek certainty of identity, but that with some a stage of identity achievement is affected with greater certainty. According to Thom (1990:467) adolescents who struggle with confusion about their identity or role are inclined to delinquent acts, drug abuse and acts of alienation.

By contrast the adolescent who has solved the identity problem successfully, or who has successfully concluded his quest for an identity of his own is characterised by the following (Kruger 1992:53):

- ◆ tolerance towards himself and others
- ◆ the ability to take decisions and carry out tasks
- ◆ awareness of his abilities in an occupation
- ◆ the courage to be alone and independent
- ◆ a vision for the future and the ability to cope with new realities and conflicts
- ◆ the ability to realise his full human potential

However, even if the adolescent feels that he has assumed his own identity, this identity is not permanent (Monteith et al 1988:173). His personal identity will keep on changing throughout his life under the influence of various experiences he will be exposed to, expectations and demands that will be imposed on him and ideals he will pursue.

2.7. CONATIVE DEVELOPMENT

Conative development is the development of a person's will. The human will can be described as that inward driving force behind all human behaviour. Each conscious action of the adolescent is executed because he wants to, because he has a wish, a need or an aspiration which he wants to fulfill by means of the action (Du Toit & Kruger 1993:56). For example, Rob wants to take Ecstasy at the Rave (conscious action) because he has a need for acceptance by his crowd. It implies a goal, (in this instance acceptance by the crowd) which can be achieved by the action (taking Ecstasy) and the will (wanting) to reach it. The will is the dynamic impetus for the realisation of the goal contained in his aspirations or needs. In his act of will, his aspirations or needs form the point of departure for the action whereby he can reach the goal which he is pursuing (Van den Aardweg & Van den Aardweg 1988:46).

The will is also the initiative underlying people's freedom of choice in decision making, their predisposition in favour of participation, and a directing force behind the performance of certain actions (Gouws & Kruger 1996:146). The adolescent is affectively, cognitively as well as conatively involved in each of his volitional acts. Van den Aardweg and Van den Aardweg (1988:46) distinguish three different steps in the volitional act, namely aspirations, choice and decision.

2.7.1 *The aspiration*

The adolescent in his totality is directed at the gratification of his needs and the fulfillment of his aspirations and motives. When he is unsuccessful or fails, he experiences conflict and frustration. According to Maslow (1970), the highest level that can be attained is that of self-actualisation. The adolescent will begin his striving for self-actualisation when his basic needs (food, clothing and safety) are fulfilled. Although the individual's basic needs are in fact also important for his becoming, the educator focuses on the secondary aspirations (Du Toit & Kruger 1993:56).

Secondary aspirations include the person's striving for love, acceptance, self-respect, companionship, success in schoolwork, status, recognition and independence. The adolescent phase is mainly characterised by the need for love, acceptance and companionship. Failure to meet the adolescent's social needs may lead to his behaviour becoming deviant. The striving for recognition and independence are especially important for the adolescent. The adolescent

constantly endeavours to gain recognition as a person in good standing as a human being. He particularly displays the need to experience independence and freedom. Unless this need is satisfied the adolescent cannot move onto the highest need - that of self actualisation - in which case the adolescent develops a sense of inferiority and weakness (Gouws & Kruger 1996:154).

Du Toit and Kruger (1993:57) affirm that all these aspirations are present in the adolescent in varying degrees. These may be consciously or unconsciously operative and they are interrelated. When one or more of these aspirations are operative, the adolescent is confronted with a choice which he has to make with regard to an aspiration or aspirations.

2.7.2. *The choice*

The adolescent is confronted with a choice moment because he cannot respond adequately to all his aspirations at the same time. In this choice moment the adolescent must determine which aspirations should be rated the highest so that he can make a realistic and responsible choice. By making choices, the adolescent shapes his future. It is important that parents and teachers guide adolescents correctly in their exercising of choices. The choices exercised by the adolescent require an increasing sense of responsibility and goal-directedness (Gouws & Kruger 1996:147-149).

2.7.3. *The decision*

The adolescent's decision as to which aspiration carries the most weight, or is the most important to pursue, has certain implications. The implications include that the aim or goal contained in the aspiration, may be accepted or rejected or its achievement deferred as far as the adolescent's behaviour is concerned (Van den Aardweg & Van den Aardweg 1988:46-47). After the decision made by an act of will, the adolescent knows what he wants and can take action in order to realise his goal.

Gouws and Kruger (1996:158) point out that in making a decision, there is no right or wrong answer or best solution for all people. It is a personal matter. The adolescent is often burdened with the responsibility of weighing choices against each other in order to arrive at a decision. It is important that the adolescent is given the opportunity to gain experience in decision making so that he learns to make his own and the right decisions. Educators who make

excessive demands on adolescents or assume their choices, for example with regard to girlfriend, boyfriend, friends, a career or sport, force the adolescent into a role that brings no happiness and may lead to confusion of identity. Such an adolescent may rebel in an attempt to gain control of his life.

2.7.4. Attitudes

An adolescent with a negative attitude towards Raves, for example, implies a negative disposition towards or a negative idea about going to Raves. According to Van den Aardweg and Van den Aardweg (1988:48) an attitude is a conscious state of readiness which has a direct or indirect directive influence on a person's actions towards all related objects and situations. Against the background of this description, it is clear that attitudes are an important component of the adolescent's volitional life.

Attitudes prepare the way for his actions. They influence his perception with the result that he only observes that which confirms his attitude. Attitudes determine the adolescent's involvement in, his experiences of and the meaning attributed to the matter which is linked to his attitude (Du Toit & Kruger 1993:59). An adolescent with a negative attitude towards attending Raves experiences the latter as unpleasant, regards it as a waste of time and would not be seen there in a hurry.

Various authors, Vrey (1974) and DuToit and Kruger (1993:59) are of the opinion that a cognitive component, an affective component and a behavioural tendency can be distinguished. For instance, the cognitive or meaning component refers to the ideas which the adolescent has about his Ecstasy use at Raves. The affective component refers to the adolescent's evaluation of Ecstasy use at Raves, resulting in pleasant or unpleasant feelings or experiences. The behavioural tendency in the adolescent indicates his behavioural readiness with regard to using Ecstasy at Raves. Attitudes have a motivating effect upon his actions which are related to the situation (Raves) or object of his attitude (Ecstasy). Adolescents' attitudes also play a part in their eventual choices.

Attitudes are acquired consciously or unconsciously and are usually lasting (Van den Aardweg & Van den Aardweg 1988:48). Parents, teachers and the peer group contribute significantly to the forming of the adolescent's attitudes. Consequently it is usually the people closest to the

adolescent who influence his attitudes towards such matters as values, religion, social issues such as drug abuse, sexual promiscuity and politics (Gouws & Kruger 1996:148). Parents probably exert the most significant influence on the adolescent's conative life. They set standards for their children and praise or scold them. The parent also has certain ambitions for his or her children which influence them. The type of family also plays a role. Adolescents from a stable family tend to have higher goals than those coming from unstable families.

The peer group has a major influence on adolescents' aspirations and on their will to carry out a task. Like children, adolescents are strongly inclined to compare themselves with the peer group and thrive on competition. The teacher can do a great deal to motivate the adolescent to realise his goal. Hurlock (1973:189) observes that the teacher also plays an important role. "If the teacher expects him to achieve academic success he comes to expect it of himself; if they expect him to fail, he lowers his level of aspirations to conform to theirs."

Because attitudes are difficult to change, the child's educators should support and accompany him in such a way that he acquires positive attitudes regarding the pedagogically acceptable, that is, attitudes appreciative of learning and becoming (Du Toit & Kruger 1993:60).

2.8. SOCIAL DEVELOPMENT

Among the most critical developmental tasks that have to be performed by the adolescent are those of socialisation: carving out a niche for himself in society, acquiring interpersonal skills, cultivating tolerance for personal and cultural differences and developing self-confidence (Kruger 1992:46). The adolescent socialises with others by forming relationships. The search for identity and the achievement of a mature psychological sense of autonomy and relatedness affect all of the adolescent's relationships. Ties with parents must make room for an increasing interest in peers and a new commitment to the life among comparative equals that peers provide (Seifert et al 1997:376). Friendships with members of the same sex deepen and heterosexual relationships rapidly assume a romantic or sexual dimension. The social emancipation of the adolescent increasingly confronts him with situations in which he has to take his own decisions, in which he is pressurised to conform and in which his values and principles are questioned and tested (Gouws & Kruger 1996:110).

Despite their generally good relations with their parents, adolescents increasingly clash with their parents' values, interests, attitudes and opinions and form their own, usually very strongly held, opinions on these matters. Parents sometimes find it difficult to accept that their child is outgrowing his childhood and struggle to reconcile the child's pursuit of independence with their established educational practices (Gouws & Kruger 1996:110)

A young adolescent's efforts to become more physically and emotionally separate from his parents and closer to his friends may be stressful, but more often than not the problems and conflicts of this period are relatively minor. Full blown upheavals and more serious problems of adolescence are most likely to occur in families and communities in which a poor fit exists between the developmental needs of adolescents and the opportunities and supports that are available (Eccles et al 1993:98).

Relationships with members of the peer group can be an enriching experience for the adolescent who is in the process of being emancipated from his parental home. Such relationships offer the adolescent the opportunity of learning and experimenting with new roles, of discharging emotional tension, of becoming involved in close friendships and developing a group identity. The adolescent's relationships with the peer group can also be a source of considerable pain and stress. Rejection, negative group expectations, snobbery, coercive pressure to conform and jealousy often cause uncertainty, doubt and acute loneliness (Gouws & Kruger 1996:110).

Some social problems such as unrestrained sexual behaviour, pregnancy, adolescent subcultures, juvenile delinquency, alcohol and drug abuse, sexually transmitted diseases, suicide and depression are associated with the social development of the adolescent. For the purpose of this study, adolescents and drug use (specifically Ecstasy use) will be looked at.

Since the adolescent's social development is critically influenced by his relations with his parents, friends and peer group, these relations will briefly be considered here.

2.8.1. Relationships with Parents

Becoming an adolescent is not an experience contained within an individual, but is a development which has implications for all of the other significant people in his life. The family

in particular is the location of major changes and some have argued that the period of adolescence involves changes for the family unit as radical as those of the initial transition into parenthood (Durkin 1995:520). These changes present many challenges to the family as a system and some of these are reflected in parent-child relations.

An important task of adolescence is to achieve adequate psychological separation, or independence from one's parents, self reliance and autonomy. This emancipation urge does not emerge all at once in the adolescent years but develops gradually from infancy and builds up to its highest point during adolescence. According to Vrey (1979:173), the adolescent's relations with his parents are a continuation of their earlier relations. The parents have authority and ideally provide the secure basis from which the child initiates other relationships. For example, the degree of autonomy granted to the adolescent by his parents depends largely on educational practices and styles of exercising authority that were used in the course of the child's life (Gouws & Kruger 1996:111).

Although the adolescent frequently rebels against parental authority in the process of his emancipation from the parental home, most adolescents nevertheless still maintain a positive relationship with their parents. Even though the majority of adolescents get along well with their parents on a daily basis, parent-adolescent relationships are likely to feel slightly unstable or "out of joint" some of the time. In part, this is because adolescents are likely to perceive discrepancies between themselves and their parents in how their families function - for example, whether individuals really get along with one another and who really makes decisions around the house (Seifert et al 1997:378). Parents may think they listen to their adolescent's opinions about what household chores she should do, but she herself may regard the "listening" as shallow or meaningless, since parents evidently decide who does what chores anyway. When discrepancies such as these come into the open, conflicts usually arise. However, the conflicts frequently serve as catalysts for further growth in adolescents' social maturity and to reconcile gaps between parents and their nearly grown children (Seifert et al 1997:379).

In contrast with former belief, most adolescents do not want to sever their relationships with their parents. According to Schickendanz et al (1990:635) they rather want their parents to be expansive and flexible enough to accept all their experiments and mistakes without rejecting

them as people. Independence from parents therefore does not mean a total breach in relations, but rather freedom within the family to make day-to-day decisions, emotional freedom to engage in new relationships, and personal freedom to take responsibility for himself in such things as education, political beliefs and future career (Kruger 1992:47).

2.8.2. *Adolescent Autonomy*

Erikson (1968) depicts adolescence as a time of identity formation during which the individual strives toward personal autonomy. Many other theorists recognise adolescence as a time of autonomy seeking (Berndt 1979; Blos 1962; Douvan & Adelson 1966; A. Freud 1958) but as Steinberg and Silverberg (in Durkin 1995:521) point out, each theorist seems to define autonomy according to different criteria. Erikson and Blos conceived of it as a process of individuation, Freud as a developing sense of detachment from parents, Berndt as a resistance to parental or peer pressure and yet others focus on other concerns. This variety led Steinberg and Silverberg to propose that the development of autonomy is not a unidimensional achievement, but actually involves progress in different domains and that the pace of development may not be consistent across domains.

They focused on three aspects of autonomy (Durkin 1995:522):

1. Emotional autonomy, in which the adolescent relinquishes childish dependence upon his or her parents.
2. Resistance to peerpressure, in which the adolescent becomes able to act upon his or her own ideas, rather than conform to those of peers.
3. Subjective sense of self reliance, in which the adolescent feels free of excessive dependency upon others, takes initiative and has a feeling of control over his or her life.

Intuitively, one might expect these variables to be positively correlated . As adolescents gain in emotional autonomy, so they might be expected to increase their ability to withstand peer pressure and to strengthen their sense of self reliance. But this was not what Steinberg and Silverberg found. They discovered that as emotional autonomy increased, resistance to peers declined. "Simply put, adolescents who are most emotionally autonomous in the face of pressure from their parents are least able to remain autonomous in the face of pressure from their friends to engage in antisocial behaviour," (Durkin 1995:522).

In fact the patterns of development of the three different types of autonomy appear to be different. Particularly interesting are the indications that for most people in early adolescence, one dependency (upon parents) is “traded” for another (upon peers). As a result, during mid-adolescence there is a tendency to be more dependent upon peers than is the case for younger children. However, Ryan and Lynch (in Durkin 1995:522) argued that Steinberg and Silverberg’s measure of emotional autonomy really reflects emotional detachment rather than developments in self-regulation. In their view, rather than a “trade” of parental dependency for peer dependency, those individuals who become particularly dependent upon peers are actually compensating for the lack of emotional support at home. It is not that they are seeking detachment, but that they lack (or believe they lack) the emotional support and acceptance from their parents that would enable them to deal more comfortably with the processes of individuation.

2.8.2.1. *Adolescent-Parent Conflicts*

As individuals strive for greater autonomy, their relations with those who up to now held authority over them come increasingly into focus- and often under strain. Popular stereotypes paint adolescents as resentful of adult authority, and several studies do reveal increases in parent child conflicts from early adolescence (Durkin 1995:523). Subjects in a study by Wish, Deutsch and Kaplan (1976:412) likened the typical parent-adolescent relationship to a relationship between a guard and a prisoner. Clearly, the young person’s felt need to express his or her autonomy and the parents’ sense of responsibility for their children’s development can and often do lead to clashes.

Many of the everyday conflicts between adolescents and their parents over chores, curfews, school and social activities reflect different perspectives about the approaching separation. Adolescents’ tendency to view themselves as increasingly emancipated from their parents’ conventional perspectives and control may create conflict between a parent’s need to maintain the usual family norms and allowing the child increasing independence (Smetana 1988:325).

2.8.2.2. *Why should adolescent conflict occur?*

Laursen and Collins (in Durkin 1995:523) point out that each of the major theoretical traditions in developmental psychology can offer an explanation. Cognitive developmentalists might point to the newly achieved powers of hypothetical reasoning which enable the young

person to contemplate and articulate alternatives to the status quo. For example, Peterson, Kennedy and Sullivan (in Durkin 1995:524) found an association between cognitive developmental status and intensity of arguments with parents, such that formal operational adolescents were more likely to have heated arguments.

Sociobiologists would see some conflict around the pubertal stage as adaptive since it prompts the young person to spend more time with his or her peers and forms part of the status realignments of the entry into adulthood. Social learning theorists might argue that adolescents have experienced vicarious exposure to conflict as a means of problem-solving, together with occasional reinforcement obtained when parents surrender to their own conflictual demands (Durkin 1995:523).

Laursen and Collins (in Durkin 1995:523-524) develop an alternative account, drawing on equity theory which holds that relationships are established and maintained by parties engaging in consistently rewarding exchanges. The amount of emotional investment that both adolescent and parent have in their relationship means that they are both inclined to preserve it. They do have to accommodate some changes as the adolescent strives for autonomy and this can lead to conflicts at times, but generally not so intense as to destroy the relationship. As previously seen, despite the conflicts, most adolescent-parent relationships do survive and are positively regarded by both parties.

Smetana (1988:326) suggests that parent-adolescent conflicts reflect the parties' different roles in the family and their attempts to co-ordinate conflicting social perspectives. Adolescents felt that their rights were being curtailed or cancelled by parents; parents felt that their adolescents often defaulted in their moral obligations to the family. Importantly, Smetana (1988:328) found that shifts in attitudes to authority were not global: that is during adolescence young people were more likely to identify certain aspects of life as properly under their control than their parents' but continued to accept that other domains were the legitimate preserve of parents. For example, issues in what Smetana (1988) called the personal domain (such as sleeping in late on the weekend or watching MTV) and the multifaceted domain (such as dressing unconventionally or associating with friends whom the parents do not like) were seen by adolescents as their prerogatives. On the other hand, issues in the moral and social

domains (such as stealing pocket money, lying, hitting siblings, not cleaning up) were accepted as areas where parental authority should prevail.

Despite the many changes taking place, however, the majority of adolescents and parents continue to get along rather well together. They also tend to share similar attitudes and values about important issues and decisions such as ideas of right and wrong, what makes a marriage good or the long run of education. Where adolescents and parents do differ is in the emphasis or strength of those attitudes and values. Most disagreements between adolescents and parents are about matters affecting the teenagers current social life and behaviour such as styles of dress, length of hair, choices of friends, dating, curfew, telephone use, participating in household chores, family activities and choice in music. For preferences such as these adolescents agree more with their peers than with their parents. Yet when it comes to the basic attitudes and values that guide long term life choices, adolescents have consistently rated their parents' advice more highly than their friends' (Seifert et al 1997:379).

It can therefore be said that the adolescent years are not necessarily characterised by severe conflict between parents and children. Nevertheless, parents, adolescents and therapists concur that this phase is not invariably a picture of serenity either. Conflict between parents and children is therefore well described in a title of an article by Montemayor (1983:83):

“Parents and adolescents in conflict: All families some of the time and some families most of the time.”

2.8.3. PEERS

While the nature of the adolescent's relationship with her or his parents is changing, the place of peers is increasing. Lewin (in Durkin 1995:525) saw as fundamental to the social locomotion of adolescence, changes in both physical context (i.e. the young person ventures into more activities in more diverse settings away from the parentally controlled environment) and in social surroundings (as the peer group and other affiliations become more valued). These shifts are not due solely to the appealing pull of external forces. As Bronfenbrenner (in Durkin 1995:525) observes, parents also give their adolescent children implicit or explicit guidance to the effect “Don't bug us! Latch on to your peers!”

2.8.3.1. *The Increasing Salience of Peers in Adolescence*

Many researchers have found that peers and peer-oriented activities do become more important to the individual during adolescence (Durkin 1995:526). Particularly prominent among the social processes entailed is that of identification with a peer group. Gouws and Kruger (1996:117) observe that the peer group constitutes a world with its own customs, traditions and sometimes language and dress. The adolescent wants to be accepted as part of this world and therefore tries to slot in with a particular group by conforming to its ideas, values, dress, speech and conduct, thus contracting a temporary emotional dependence on their approval.

At times the adolescent seems to identify himself with his peer group to the extent where instead of forming his own identity, he seems to lose whatever identity he has (Schickendanz et al 1991:631). It seems as though the price of wresting emotional autonomy from parents may be some kind of emotional dependence on peers. This is born out by the fact that the peer group exerts its greatest influence in early adolescence. Vrey (1979:104) notes in this regard: "In order to emancipate from the role of child as subordinate, the parental home as sanctuary is functionally replaced by the peer group as a basis of safety."

Brown (in Durkin 1995:525) points out that adolescents have many peers, but not all are part of any one individual's peer group. He proposes that peer groups be conceptualised at three levels: dyads (pairs of close friends or lovers), cliques (groups of several individuals who interact frequently) and crowds (larger collectives of people with similar images and affinities). Kruger (1992:117) additionally includes the gang as a peer group.

2.8.3.2. *Peer Groups*

A *clique* is a small, intimate group comprising two to nine members who share the same interests and background. The relationship between the members is one of intimate involvement in a number of shared purposes and activities. Accordingly they are usually members of the same sex and socio-economic class and are in the same school standard. Clique membership allows an adolescent to have a few select friends whom he or she knows well. Membership is voluntary and new members are only allowed in if all the members are agreeable. Advantages of clique membership include security, a feeling of importance and acquisition of socially accepted behaviours that are part of conforming to the clique's norms.

However, conformity can also suppress individuality and may promote “in-group” snobbishness, intolerance and other negative values and behaviours. Involvement with a clique of antisocial peers is associated with various adolescent adjustment problems, including drug and alcohol abuse, dropping out of school, delinquency and gang membership, although which is cause and effect is uncertain (Seifert et al 1997:385).

A *crowd* comprises 15 to 30 members and consists of members of both sexes. These groups are generally formed during the mid-adolescent years and originate from the adolescent’s growing need for contact with members of the opposite sex. The main function of the crowd is therefore to offer a framework for the forming of heterosexual relationships and to provide a situation in which heterosexual behaviour and skills can be learned and tested. Whereas the clique is characterised by intimate communication, the crowd’s activities usually include parties and larger gatherings (Gouws & Kruger 1996:118).

Crowds can also be seen as an association of cliques (Schickendanz et al 1990:631). However, all cliques are not inevitably assimilated into a crowd. Membership of a clique is therefore a prerequisite for membership of the crowd. According to Seifert et al (1997:385) the crowd is the central point in the change in the adolescent’s association structure from unisexual to heterosexual groupings. It also forms the base for the adolescent’s development of a new heterosexual role.

Gangs and cliques display certain similarities as well as clear cut differences. As in the case of cliques, *gangs* usually consist of members of the same sex except they have more members than cliques. They are also better organised and structured. Although they are formed on a geographic basis, just like cliques, their “territory” is much more clearly delineated. Unlike the friendly and innocuous nature of cliques, gangs are frequently characterised by illegal, antisocial and criminal activities. In a gang, the roles of the leader and the members are clearly defined and the gang usually has a name (Gouws & Kruger 1996:121).

According to Kruger (1992:117), characteristics that typify the members are usually poverty, broken homes, absence of suitable adult role models, parents with criminal histories, low scores in intelligence tests, lack of control over irrational impulses, the fact that members rely

on physical and verbal aggression to maintain their position in the gang and a tendency to indulge in dangerous behaviour.

Gouws and Kruger (1996:120) affirm that not all adolescents are necessarily members of the groups discussed above and not all adolescents attain social adulthood with the peer group as a major conducive factor. Most children's relationships with their peer group usually change from a typical immature dependence on the peer group to relative independence during late adolescence when individual heterosexual relations exert a decisive influence on them.

Kruger (1992:48) asserts that these groups exert a greater or lesser influence on the becoming and development of the adolescent. Relations with peers are critical for self-concept formation and for self actualisation. Adolescents share a great deal of their lives with the peer group; go to school with them; participate in sports with them; spend leisure time with them and sleep over at their homes. The peer group serves as a sounding board for their ideas thoughts and concerns. Matters that cannot be discussed with parents in some instances are freely discussed with the peer group, for example, personal problems, drugs, alcohol, parents, teachers, sex and contraceptives.

According to Kruger (1992:118), the adolescent who fails to gain acceptance by the group for some reason suffers a traumatic experience that may occasion a sense of rejection. For many pupils, acceptance by the peer group is more important than that of his teacher and he cannot devote time to academic studies unless and until he is sure of his peers' acceptance (Raath & Jacobs 1993:75). The peer group and peer group pressure can act as stressors in the life of the adolescent.

While popular stereotypes represent adolescent peer relations as potentially dangerous, it is the lack of peer involvement which is unusual in this age range, and may perhaps place the individual at greater risk. As Kirchler, Pombeni and Palmonari (1991:396) point out, if adolescents are not able to develop peer relations and stick exclusively to their family, then they may face problems in developing their adult autonomy and in handling relations with other adults. Buhrmester (in Durkin 1995:527) found that adolescents who enjoyed close relationships with peers tended also to be less prone to anxiety and depression.

2.8.3.3. *Peer Conformity and Pressure*

Another component of lay stereotypes of adolescents is that they tend to submit slavishly to peer group influences. Conformity is especially powerful during the transition to adulthood. Everyday observation supports the impression that if being a gothic is in, everyone gets sun-shy, wears black clothes and dyes their hair. Similarly, if being a raver is in, everyone goes to Raves, tries Ecstasy, drinks bottled water, wears funky clothing and dances all night long. While the occurrence of group convergence in these matters is easy to detect, it is not clear that this is a peculiarly adolescent phenomenon: adults have equally pronounced dress codes. Of more interest is psychological conformity, that is adherence to the beliefs, values and behaviours of others. Again, adults are sometimes vulnerable to group influence in these respects (Durkin 1995:526).

Costanzo and Shaw (in Durkin 1995:527) found that conformity peaked at around ages 11-13 years. Coleman (in Durkin 1995:527) found that young adolescents thought of peers who did not belong to the group in predominantly negative terms, while older (over 15) adolescents showed significantly more constructive evaluations - admiring people for not acting "like sheep". Berndt (in Durkin 1995:527) found that conformity to adult's suggestions diminished with age, but responses to peer pressure followed a more complex course. Conformity to pro-social pressures from peers was most likely at around the age 11-12, consistent with Costanzo and Shaw's finding and with their explanation that children of this age have developed a strong sense of the necessity for rules. However, conformity to antisocial suggestions peaked at the age 14-15, seemingly reflecting aspects of the struggle for autonomy from parents.

It appears then that adolescent conformity is not an absolute condition but a form of social accommodation that varies according to situation and developmental status (Durkin 1995:527). Moreover, peer pressure itself is not a blanket covering all aspects of social behaviour. Brown (in Durkin 1995:527) suggests that peer influence may operate in different ways at the different levels of peer involvement identified above (dyads, cliques, crowds and gangs). For example, imagine a situation in which your dyadic partner may want to go to the Rave, while your clique does not; but your crowd thinks its cool to attend raves and be interested in drugs. Brown (in Durkin 1995:527) maintains that in view of these countervailing pressures, it is an oversimplification of the notion of peer group influence in adolescence to

imagine that it operates unilaterally and accounts for every activity or choice that young people make.

2.8.3.4. *Adolescents' Perceptions of Peer Pressure*

It is revealing to consider how adolescents themselves conceive of peer pressure. Often, they report that they do not feel under peer pressure (Durkin 1995:527), however as a rule, peer pressure appeared stronger for females than males and the sexes differ in areas where peer group pressure is the most intense (Kruger 1992:119). Brown (in Durkin 1995:528) found that adolescents distinguished among the domains in which they felt it. As might be expected, appearance (clothes and hair) came top of the list, followed closely by social involvement (dating, frequenting the same places). Pressure to engage in misconduct (smoking, drinking, drugging, having sex) increased in early adolescence, but none the less it was rated significantly lower than appearance and social involvement concerns at all ages.

Conformity generally signifies a desire to be accepted by some social group. Kruger (1992:119) maintains that wanting to be accepted by friends, participating in activities they don't feel comfortable with (drugs, sex, smoking, drinking) and not having the resources to be part of the "in" group are all typical stressors of the adolescent years. Different peer groups exert different kinds of pressure just as adolescents' susceptibility to peer pressure differs from one individual to the next. The content, extent and intensity of peer group pressure differ with the situation and from culture to culture. However, the stress of resisting unhealthy peer pressure can be buffered by good family relationships and a high self esteem. According to Hendren (in Kruger 1992:119) it is often those adolescents with neither, who succumb to unhealthy pressure from peers. The influence of peer group pressure on the child can therefore be questioned with justification but it is nevertheless a fact that many adolescents experience their parents as rejecting in this phase and are reliant on the peer group for that reason.

The fact that this pattern of behaviour is somewhat heightened in early to mid-adolescence does point to the importance of the peer community for the young person. Nevertheless, despite the stereotype, conformity is not ubiquitous and part of the developmental achievement of later adolescence is to establish one's autonomy from peer pressures. While conformity to peers tends to be regarded (by adults) with some suspicion, the process appears to be significant as an element of coming to terms with the extra-familial social environment

and it would be naive to represent all or even the majority of peer influence as negative (Durkin 1995:529).

2.8.4. Friendships

Friendships are relations between individuals rather than with the peer group as a whole. Adolescents usually choose friends that are similar to them, probably because they are struggling to differentiate themselves from their parents and as a result need support from people who are like them in certain important ways (Gouws & Kruger 1996:125). Friendships tend to be very intense and take up a great deal of the adolescents thoughts and time.

Coleman (in Kruger 1992:48) distinguishes different phases in the development of friendships. During early adolescence (11-13 years) friendships centre on the activities of the friends rather than on interaction with them. Depth and feeling are not significantly present in the friendship. During mid-adolescence (14-16 years) the principal demand made on friends is dependability. At this stage the adolescent feels that his friend may not let him down. Such a friend must be loyal, understanding and supportive. Friendship during late adolescence (17 years and older) is characterised by a more relaxed attitude. Friendships are more dependent on personality and interests and differences from friends are accepted, valued and even cherished. It seems that the older adolescent is more aware of his identity and is therefore able to act independently. Another important reason for the slight increase in distance between friends could be the development of intimate heterosexual relations (Gouws & Kruger 1996:126).

The friendships contracted by boys and girls display the same basic development pattern. The main difference is that the friendships between girls are more personal and emotional while those between boys concentrate mainly on activities and shared interests (Kruger 1992:48).

2.9. MORAL DEVELOPMENT

Moral development is a key aspect of the adolescent's overall development. It bears on both the conative and the cognitive aspects of the adolescent's development and is influenced by his progress towards independence and identity. Social and environmental factors also exert a major influence on the adolescent's moral development.

At this stage the adolescent is confronted by a variety of situations. He has to make an increasing number of independent decisions and bear the consequences of such decisions. He also has to judge whether his decisions were right or wrong. To achieve moral maturity he must have conscious knowledge at his disposal that can be applied to evaluate good and evil and that can serve as a frame of reference to guide his behaviour by (Kruger 1992:49). According to Gouws and Kruger (1996:174), conscience is a person's inherent ability to distinguish between right and wrong. Moral values that influence conscience include honesty, loyalty, responsibility, appreciation, respect and a sense of duty. The functioning of conscience can change and diminish in certain circumstances. For example, adolescents' sense of guilt about using Ecstasy may be eliminated as a result of their peer group's endorsement of the drug habit.

Gouws & Kruger (1996:175) maintain that people regulate their actions in accordance with norms, rights and obligations and if they disregard any of these, their conscience becomes active. The promptings of conscience also move adolescents to fix their wrong doing, for example by admitting and apologising for it. In other words, they have to accept responsibility for the choices they have made, failing which they may suffer from guilt feelings that may lead to self recriminations, and therefore to a sense of shame, self hatred, self rebuke and anxiety.

Conscience serves as a touchstone for the adolescent's founding of a personal value system. The development of such a personal, internalised value system is prone, however to the influence of several factors that may even affect it detrimentally:

- ♦ Traditional societies dictate more values and rules than in modern society. Modern society is very diverse and values are variable and relative. The responsibility rests on the individual to direct his behaviour in accordance with values of his own choice. This responsibility can create problems for the adolescent because he is confronted by a bewildering variety of values without guidelines or rules to help him decide which of these to accept and which not (Thom 1990:427).
- ♦ Whether moral values are internalised during adolescence depends largely on the child's relationship with his parents. According to Monteith et al (1988:159) mutual acceptance, trust and respect between parent and adolescent as well as good communication between them, lead to mutual empathy and contribute to the forming of the adolescent's

conscience. Research also indicates that consistent discipline practised by both parents is one of the crucial factors in moral development and that undue permissiveness retards moral development because the adolescent receives no guidance towards the development of internal control and the forming of an active conscience (Rice 1984:484).

- ♦ The peer group is a critical determinant in the development of a value system. Since acceptance by the peer group is essential for the adolescent, he conforms with the standards and limits for admissible behaviour set by the group. This is particularly the case in families in which parental influence has declined. Adolescents primarily turn to peers in reaction against parental neglect and rejection. According to Rice (1984:486) adolescents who are surrounded by deviant moral values may become delinquent because of their environment. Such delinquency has its origin in the values represented by the surrounding subculture.
- ♦ The values of the peer group are not inevitably in conflict with those of parents, although such cases may occur. Conformity with the peer group can have the effect that the values inculcated by the parents are reinforced since parents usually encourage adolescents to befriend peers with the same value orientation as that established in the home.
- ♦ The adolescent's religious disposition also influences his moral development and behaviour. Thom (1990:431) notes that, religious youth display a livelier and more advanced sense of responsibility than irreligious ones. They see their future and that of humanity at large as predictable and certain; they are less anxious, experience a greater sense of security, and identify themselves more readily with parental attitudes, values, and behaviour than do people who are not committed to a religious faith. Moreover premarital sexual intercourse and drug and alcohol abuse are less prevalent among them than among their irreligious peers.
- ♦ The adolescent's level of cognitive development also influences his moral development. According to Mussen et al (1990:641) adolescent thinking about moral issues has usually advanced at least to the level of conventional morality (Kohlberg's theory). However, many adolescents or even adults do not advance beyond this level to post-conventional stages of moral judgement.

Poor moral development gives rise to such problems as sexual permissiveness, the use and abuse of alcohol and drugs and delinquency.

2.9.1. KOHLBERG'S THEORY

Kohlberg (1978) proposed six stages of moral judgement that develop slowly, well into middle adulthood. The stages form a progression in two ways. Firstly, earlier stages represent more egocentric thinking than later stages do. Secondly, earlier stages by their nature require more specific or concrete thinking than later stages do. For instance, in stage 1 called (heteronomous morality), a child makes no distinction between what he believes is right and what the world tells him is right; he simply accepts the perspectives of the authorities as his own. By stage 4 (social system orientation) when the child is an adolescent, he realises that individuals vary in their points of view, but he still takes for granted the existing overall conventions of society as a whole. He cannot yet imagine a society in which those conventions might be purposely modified, for example by passing laws or agreeing on new rules. Only by stages 5 and 6 (ethics) can he do so fully (Seifert et al 1997:364).

Table 2.2: Kohlberg's stages of moral judgement adapted from Seifert et al (1997:364):

<i>Stage</i>	<i>Nature of stage</i>
<i>Preconventional level</i> (emphasis on avoiding punishments and getting awards)	
Stage 1 Heteronomous morality; ethics of punishment and obedience.	Good is what follows externally imposed rules and rewards and is whatever avoids punishment.
Stage 2 Instrumental purpose; ethics of market exchange.	Good is whatever is agreeable to the individual and to anyone who gives or receives favours; no long term loyalty.
<i>Conventional level</i> (emphasis on social rules)	
Stage 3 Interpersonal conformity; ethics of peer opinion.	Good is whatever brings approval from friends as a peer group.
Stage 4 Social system orientation: conformity to social system ethics of law and order.	Good is whatever conforms to existing laws, customs and authorities.
<i>Postconventional level</i> (emphasis on moral principles)	
Stage 5 Social contract orientation; ethics of social contract and individual rights.	Good is whatever conforms to existing procedures for setting disagreements in society; the actual outcome is neither good nor bad.
Stage 6 Ethics of self chosen universal principles	Good is whatever is consistent with personal, general moral principles.

In the school years children most commonly show ethical reasoning at stage 2, but some may begin showing stage 3 or 4 reasoning toward the end of this period. For the majority of youth and adults, stage 3 (interpersonal orientation) and stage 4 (social system orientation), characterise their most advanced moral thinking. In stage 3, a person's chief concern is with

the opinions of her peers: an action is morally right if her immediate circle of friends says it is right (Colby & Kohlberg in Seifert et al 1997:364). Often this way of thinking leads to helpful actions, such as taking turns and sharing possessions. But often, it does not, such as when groups of friends at a Rave decide to take Ecstasy.

In stage 4, the person shifts from concern with peers to concern with the opinions of the community or society in the abstract: now something is right if the institutions approve. This broader source of moral judgement spares stage 4 children from the occasional tyranny of friends' opinions; now they no longer use Ecstasy at Raves just because their friends urge them to do so. This change makes adolescents less opportunistic than children are, less inclined to judge based on immediate rewards or punishments they experience personally. Instead they evaluate actions on the basis of principles of some sort. For the time being, the principles are rather conventional; they are borrowed either from ideas expressed by immediate peers and relatives or from socially accepted rules and principles, whatever they may be (Seifert et al 1997:364). If friends agree that Ecstasy use at Raves is permissible, many teenagers are likely to adopt this idea as their own, at least as a general principle. But if friends or family believe drug use is morally wrong, adolescents may adopt this alternative belief as a principle. It is important to note however, that whether an adolescent actually acts according to these principles is another matter. Moral action does not always follow from moral belief.

A few older adolescents develop post conventional moral judgement, meaning that for the first time, ethical reasoning goes beyond the judgements society conventionally makes about right and wrong (Colby & Kohlberg in Seifert et al 1997:365). Adolescents' growing ability to use abstract formal thought makes this possible; unlike schoolchildren, they can evaluate ethical ideas that might be right or wrong given certain circumstances that can only be imagined.

It is important to note that only 20-25% of adults reach the level of post conventional morality, which means that many adolescents are at the conventional level. If the child in the conventional level (conformity) can learn from acceptable models how to reason and act with respect to moral issues, the chances are greatly improved that during the post conventional stage, his moral reasoning and actions according to his own convictions will be acceptable to the relevant community (Gouws & Kruger 1996:178).

2.10. CONCLUSION

“How can I establish a figure, even the crudest outline, if I don’t know what I am doing?... What do I know of the causes? The vital structure of a man that lies beneath the surface, and that my eye can’t see? How can I know what creates from within, the shapes I see from without?” (Irving Stone 1959:187).

Those are always the questions artists, scientists, educators and finally all people must ask. They ask them all their lives, but especially in adolescence. The preceding statement raises the questions of deeper understanding of one age group related to our present day culture. It is set within the value system of a democratic society with all its possible advantages and its desperate search for actualisation.

Each life period has its sorrows and exhilarations for the individual who experiences them as well as for those surrounding him. Each life period has its significance for the continuous development of the human race. Adolescence is neither golden nor rotten. It has the potential of all human experience. Only the adult generation is still partially responsible for helping adolescents to be healthy, secure, able to cope with their own problems and also with the problems of the total society. All human beings have a responsibility neither to demean others nor to hinder others from developing. Observation alone is never sufficient. It leaves the door open to negative forces sweeping over us. Adults must take the initiative first, to eliminate the destructive forces impinging on adolescents and second, to strengthen those forces that will enhance their health and thus the fate of all of us (Konopka 1973:24).

2.11. SUMMARY

In this chapter the theory underlying a psycho-educational perspective of adolescence was briefly discussed. The adolescent’s becoming and development in different domains of human existence were also examined. Brief reference was made to the fact that some researchers and authors regard adolescence as a time of “storm and stress” while others consider the adolescent to be relatively free from stress.

All the same, it cannot be denied that adolescence is a difficult phase during which many changes take place in all the domains of becoming and adaptations have to be made. Mussen et al (1990:568) contend that it seems almost unfair that so many socialisation demands - for

independence, for changing relationships with peers and adults, for sexual adjustment, for educational and vocational preparation - are made at the same time that a young person is experiencing an almost unprecedented rate of biological maturation. Above all the adolescent struggles with the forming of his own identity and the stabilisation of a realistically positive self-concept.

Adolescents endeavour to cope with the stress and changes in their lives but sometimes their coping mechanisms may also lead to behaviour related problems such as drug abuse, eating disorders, suicidal tendencies leading to suicide attempts and sexual escapades that endanger their health. The increasing incidence of adolescent drug abuse in South Africa compels the researcher to examine the drug phenomenon more closely.

The latest figures according to the South African Narcotics Bureau (May 1999), indicate that one in three and in the higher standards, one in two school going youngsters are experimenting with drugs. Drugwise social worker Tanya Singer (in *The Independent* on Saturday, 08 May 1999:02) states that, "Four years ago, six percent of high school pupils were abusing drugs, now there were as many as 30% to 50% and within the next four years, 90% of pupils will be experimenting with drugs." Another Drugwise social worker, Michelle Ginsberg, explains that in more upmarket suburbs, dagga is seen as old fashioned and the drugs of choice are mainly Ecstasy, LSD and cocaine, while in the townships crack, dagga and Mandrax still remain the most popular drugs (*The Independent* on Saturday, 08 May 1999:02).

In the following chapter Ecstasy (MDMA) is studied with reference to various factors such as its history, the role of set and setting, physiological and psychological effects, risks involved and potential neurotoxicity.

CHAPTER THREE
MDMA (“Ecstasy”)
(methylenedioxymethamphetamine)
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3.1. INTRODUCTION

“You discover a secret doorway into a room in your house that you did not previously know existed. It is a room in which both your inner experience and your relations with others seem magically transformed. You really feel good about yourself and your life. At the same time, everyone who comes into this room seems more loveable. You find your thoughts flowing, turning into words that previously were blocked by fear and inhibition.

After several hours, you return to your familiar abode, feeling tired but different, more open. And your memory of your mystical passage may help you in the days and weeks ahead to make all the other rooms of your house more enjoyable,” (Eisner1989:01).

This metaphorical door exists in the form of a mind-altering chemical substance which goes by many names: Ecstasy (XTC), Ekky, E, Love doves, Stars, Mitsubishis, Clovers, E-mails, One two fives (to mention but a few)- but the initials of its chemical name are MDMA.

3.2. HISTORY

Methylenedioxymethamphetamine (MDMA) was first synthesised and patented in 1914, shortly before the First World War, by the German Pharmaceutical company Merck in Darmstadt (Cohen 1995:1138). The chemical precursors for MDMA are contained in the oils from plants such as nutmeg, dill, parsley seed, calamus, crocus, saffron, vanilla beans and sassafras (Redhead 1993:08). MDMA is however most often produced synthetically in laboratories from methamphetamine (Elk 1996:350). One version of MDMA’s history maintains that the drug was briefly prescribed as a slimming aid, another that it was originally developed as an appetite suppressant for German troops. If the latter is true, MDMA’s aggression diminishing, empathy inducing effects would have quickly disqualified its use in combat situations (Reynolds 1998: xxii). Cohen (1995:1138) maintains that although MDMA is widely believed to have been originally synthesised as an anorectic, the actual patent does not make mention for such use. When it was used in the early nineties in experimental therapy sessions for traumatised Nicaraguan soldiers, 75 per cent of the subjects expressed a desire for peace and an end to war, with several talking of loving everyone, including the enemy. In the 1950’s, American military researchers experimented with MDMA’s potential as a disorientation- drug, something that would psychologically disarm enemy troops (Reynolds 1998: xxiii).

The modern story of MDMA begins with its rediscovery in the early 1960's by Alexander Shulgin, widely regarded as "the stepfather of Ecstasy" (Saunders 1997:07). Shulgin was then a biochemist working for Dow chemicals and pursuing an interest in psychedelics on the sly. Later in the decade he opened his own government approved laboratory in San Francisco, dedicated to the synthesis of new psychoactive substances, all of which he tested on himself and his wife/co researcher, Ann (Reynolds 1998: xxiii). Shulgin synthesised myristicin into MDMA in 1962 by extracting it from the oils of nutmeg and mace (Redhead 1993:08). He soon became a prime mover in America's network of neuro-consciousness explorers.

Not until the 1970's did MDMA become popular for its therapeutic and recreational qualities. The first report of the psychoactive effects of the drug in humans appeared in 1976 in a journal article by pharmacologists Alexander Shulgin and David Nichols. Shulgin and Nichols (in Eisner 1989:02) stated that the drug "appears to evoke an easily controlled altered state of consciousness with emotional and sensual overtones."

Among those who noted MDMA's promise, there was fear that MDMA might become a "street drug" as LSD had, and be quickly banned. According to Eisner (1989:02), those who experimented with MDMA, many of whom were psychotherapists, attempted to control the dissemination of information about the drug as well as the substance itself. They hoped that enough informal research could be done before it became public to keep it from becoming illegal. MDMA supporters hoped to restrict the use of the drug to clinically supervised sessions, while gradually campaigning for MDMA's medical legitimacy. As one psychotherapist put it, "MDMA is penicillin for the soul, and you don't give up penicillin once you've seen what it can do" (Saunders 1997:08).

In the late seventies and early eighties, MDMA gained popularity as being an adjunct in counselling sessions. Therapists would administer the drug to their patients in an effort to facilitate the entire therapeutic process (Cohen 1995:1138). The main uses of MDMA were as facilitator for interpersonal exploration and communication between lovers and friends, and among the professionals, as a tool for psychotherapy (Eisner 1989:05). Additionally, it has been reported to increase self-esteem, elevate mood, increase self-insight and enhance empathy (Elk 1996:350). For these purposes MDMA turned out to be quite reliable. By this time it was called "Adam" or "Ecstasy" by many of those who used it (Eisner 1989:05).

Metzner (1984) noted that possibly the most interesting code name for MDMA is the term “Adam.” According to Metzner (in Eisner 1989:06), the figure of Adam represents the “original being, the condition of innocence and unity with all life.” Feelings of “being returned to a natural state of innocence, before guilt, shame and unworthiness arose” are common in the MDMA state of elated bliss and so are feelings of “connectedness and bonding with fellow human beings, animals and all the forms and energies of the natural world.” Metzner (in Eisner 1989:33) used descriptors like “feeling enhancer” and coined the term “empathogen” regarding MDMA. This is explored more fully later in this chapter. (*See section 3.4. therapeutic aspects*).

The other popular name for MDMA, “Ecstasy” was chosen for obvious reasons. According to Eisner (1989:06), the man who first named MDMA Ecstasy chose the name because it would sell better than calling it Empathy. Empathy would have been more appropriate, but he questioned how many people knew what the word actually meant.

MDMA because of the way it facilitated a rebirth of the trusting and innocent “inner child” spread throughout a looseknit circuit of therapists in America. Used in marriage therapy and psychoanalysis, the drug proved highly beneficial. Advocates claimed that a five hour MDMA trip could help the patient work through emotional blockages that would otherwise have taken five months of weekly sessions (Reynolds 1998: xxiii)

Nevertheless, its euphoria inducing effects could not be kept secret for long. Some of the same psychoactive properties that made MDMA popular as a potential therapeutic aid in psychotherapy also made it appealing as a social recreational drug. Ecstasy had already slipped decisively out of the custody of psychotherapy. Some reports of early underground batches start as early as 1970 (Eisner 1989:02).

Instead of being used as Shulgin and his associates had visualised, in bonding sessions between couples or as a tool of personal discovery, Ecstasy proved to have other more appealing uses. When large numbers of people took Ecstasy together, the drug “catalysed a strange and wondrous sense of collective intimacy, an electric sense of connection between complete strangers,” (Reynolds 1998: xxiv). Even more significantly, MDMA turned out to have a

uniquely co-operative interaction with music, especially uptempo, repetitive, electronic dance music .

By the early eighties, there was a fully fledged Ecstasy scene in Texas and MDMA was becoming an increasingly popular “legal high” throughout America. Ecstasy replaced cocaine as the drug of choice. With the reputation of being “fun” Ecstasy spread to people who normally kept well clear of drugs. It was even on sale in bars where credit card payments were welcome (Saunders 1997:09).

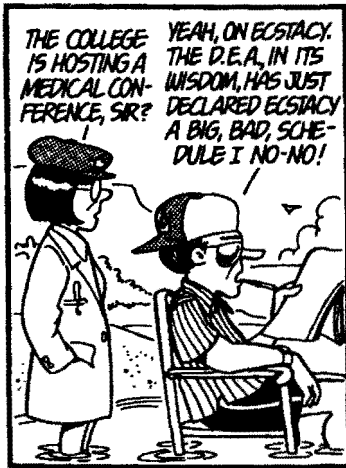
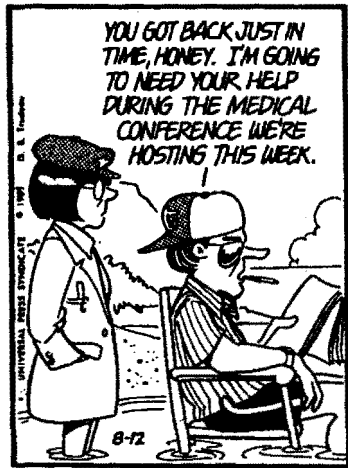
Still in the early 1980's, several animal studies suggested that MDMA may cause neurotoxicity. With these findings, the American Drug Enforcement Administration (DEA) ordered a crisis hearing concerning the potential risks associated with MDMA intake. Shortly after, in 1985, MDMA was placed into the most restrictive of all drug categories in America, Schedule 1. (In South Africa schedule 8 is the most restrictive drug category). Also because of its structural similarity to MDA which had earlier been associated with damaging serotonin producing neurons in laboratory animals, the DEA believed that similar destruction could occur in humans, therefore possibly evoking long-term side effects (Cohen 1995:1138).

Pharmacologist Alexander Shulgin (1985:03) describes it well :

“MDMA has been thrust upon the public awareness as a largely unknown drug which to some is a medical miracle and to others a social devil... There have been the born again protagonists who say that once you have tried it, you will see the light and will defend it against any attack, and there have been the staunch antagonists who say this is nothing but LSD revisited and it will certainly destroy our youth. There are many voices to be heard presenting the modest inventory of facts that are known but there is no one who will answer questions in a way that can be heard by both camps.”

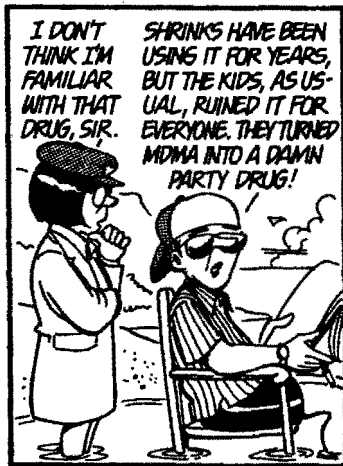
(See figure 3.1).

A great amount of uncertainty continues to exist regarding the rapid scheduling of MDMA. It is widely believed that the decision to ban the drug was founded purely on animal studies and speculation regarding potential dangers with human use (Cohen 1995:1138). Despite the scheduling of MDMA, people still continue to use this drug throughout the world.



BY GARRY TRUDEAU

Doonesbury



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The illegalisation of MDMA has had wide ranging consequences. The first was to prevent the drug being used legally by therapists thereby making responsible research almost impossible, except in Switzerland where it was allowed between 1988 and 1994. The second was to reduce the quality of the drug as sold on the street, because demand was now met by clandestine laboratories and the drug was distributed through the criminal network. Criminalisation however, did not prevent the drug's popularity spreading world wide (Saunders 1997:11).

MDMA was also used by followers of Bhagwan Rajneesh, the Indian guru whose disciples wore orange. They spread its use to Europe as a means of enlightenment. At about the same time in 1988, Ecstasy reached the Spanish holiday island of Ibiza (Saunders 1997:11). The setting for its use there was different. Here, the combination of Ecstasy with dancing to blaring electronic music in a nightlife atmosphere was invented. Ecstasy had become a popular party drug. This combination spread from Ibiza to England and the Netherlands in particular, where a new youth culture, the Rave culture, emerged.

As a result of the wide media coverage of the controversy over its abuse potential and its neurotoxicity, MDMA became even more popular as a recreational drug. In South Africa, MDMA was legal until 7 May 1993 after which it was taken up in Schedule 8 of the Medicines and Medicines Control Act (Act101/65) (Le Roux 1996, South African Police Ecstasy Drug Conference). Ecstasy is now associated with the Rave movement as the drug of choice and is commonly used recreationally in dance clubs or "Raves" playing acid house, techno or garage music (Redhead 1993:41). (*See chapter 4 for Rave discussion*).

Because the use of MDMA has not been proven safe under medical supervision, there is no accepted medical use for MDMA at this time and it remains a controlled substance (Elk 1996:350). Recently in 1994, the American Food and Drug Administration (FDA), has approved MDMA for formal human research, so the possible dangers of recreational use of this illegal drug can be addressed (Elk 1996:354).

3.3. CLASSIFICATION OF MDMA DRUG

The uniqueness of MDMA can be seen in the controversy generated over the proper terminology used to describe it. The label "designer drug" has often been applied to MDMA.

Designer drugs have been described as “substances wherein the psychoactive properties of a scheduled drug have been retained, but the molecular structure has been altered in order to avoid prosecution under the Controlled Substances Act” (Beck & Morgan 1986:290). Whether MDMA is a designer drug is debatable since it was first synthesised and patented in 1914 long before the Controlled Substances Act (1970) came into being.

The primary effect of Ecstasy is to produce a “positive mood state” which comprises feelings of intimacy and closeness to other people. These effects characterise and distinguish Ecstasy from other classes of drugs especially those with which it has most often been likened to, the amphetamines and hallucinogens. It seems that Ecstasy shares the properties of both classes of drug concerning its secondary effects and in terms of the frequency and severity of its side effects. The amphetamine-like effects of Ecstasy are its secondary stimulant effects of energy and activation. The hallucinogen-like effects of Ecstasy are its secondary psychedelic effects of insight and enlightenment, heightened sensitivity and mild perceptual and sensual alterations (Solowij et al 1992:1169).

Siegel’s conclusion (in Solowij et al 1992:1169) that the “perceptual effects of MDMA intoxication are typical of intoxications from the classic hallucinogens such as mescaline” appears to be applicable to very high doses only. In fact, the clarity of the experience on moderate doses of Ecstasy is a distinguishing factor from the disorientation, hallucinations and distortions of reality typical of moderate doses of the classic hallucinogens (Solowij et al 1992:1169). Co-ordination is not affected during the MDMA experience and there are no disorganising effects on thought processes (Eisner 1989:03).

Ecstasy is an appealing drug to recreational drug users in that it provides an “added bonus”. Solowij et al (1992:1170) maintain that for those seeking primarily stimulant effects it also induces the positive mood, euphoric and intimacy effects. For those seeking an enlightened experience or perhaps emotional therapy and insight it provides feelings of intimacy and closeness to others plus the stimulant-like alertness, talkativeness and energy. Additionally, it provides “noetic” feelings, that is the experience of seeing the world in a fresh way as if for the first time - as a child sees it (Eisner 1989:03). Further, it is a drug experience in which one feels that one can stay in control of one’s thoughts and actions rather than the drug being in control.

This “staying in control” element of the Ecstasy experience appeared in the first description of MDMA’s action in humans. Shulgin and Nichols (in Eisner 1989: 02) described it as an “easily controlled altered state of consciousness, with emotional and sensual overtones” and this was evident in the responses of a large proportion of Solowij’s sample, often being given as a reason for preferring Ecstasy over the more “mind bending” drugs (Solowij et al 1992:1170).

Buffum and Moser (1986) conducted a survey of MDMA’s effects on human sexual function. They found it “curious that a drug which can increase emotional closeness, enhance receptivity to being sexual and would be chosen as a sexual enhancer, does not increase the desire to initiate sex,” (in Eisner 1989:46). Possibly this is because of the ability to remain in control of one’s actions with awareness of consequences. The respondents of this study generally described Ecstasy as “sensual” rather than “sexual”. Buffum and Moser (in Solowij et al 1992:1170) also concluded that due to the increased feelings of emotional closeness, Ecstasy serves to enhance the sensual aspects of sex.

3.3.1. MDMA in a class of its own

The empathogenic effects of Ecstasy have led to the suggestion that it is a member of a new class of psychoactive compounds, which have been labelled “entactogens” or “empathogens” (Jansen 1997:112). (*See section 3.4. therapeutic aspects for more detail*). MDMA is reported to produce a different psychological profile than that of classic hallucinogens and stimulants. It has therefore been tentatively classified into a novel pharmacological class termed entactogens (Vollenweider et al 1998:241).

Vollenweider et al’s (1998) double blind placebo controlled study examined the effects of a typical recreational dose of MDMA (1.7mg/kg) in thirteen MDMA naive, healthy volunteers. MDMA produced an affective state of enhanced mood, well being and increased emotional sensitiveness, little anxiety but no hallucinations or panic reactions. Subjects also displayed changes in the sense of space and time, heightened sensory awareness and increased psychomotor drive (Vollenweider et al 1998:241).

For some subjects, adverse sequelae during the following 24 hours included lack of energy and appetite, feelings of restlessness, insomnia, jaw clenching, occasional difficulty concentrating and brooding. Despite the lack of experience of the volunteers, no serious psychological

adverse reactions were noted. The researchers conclude that “present data suggest that the risk for MDMA - induced psychiatric complications can be minimised under clinical conditions by careful evaluation and preparation of volunteers,” (Vollenweider et al 1998:249). These findings were consistent with the hypothesis that MDMA produces a different psychological profile than classic hallucinogens or psychostimulants.

While formulation of a new class of compounds may be warranted by the psychological effects, MDMA is still a partial derivative of amphetamine and has many physical effects in common with the amphetamine group (Jansen 1997:115).

3.4. THERAPEUTIC ASPECTS OF MDMA

“A good MDMA session is comparable to two years traditional therapy,” “it produces that vital and transforming factor in psychiatric sessions, honesty,” “it invites self-disclosure and self exploration”- these are quotes from some of the psychotherapists and psychiatrists in America who have made use of MDMA in their practices (Albery 1997:01). In the 1970’s MDMA became popular in the medical field as an aid in psychotherapy. It was hypothesised that the psychoactive properties induced by MDMA, such as feelings of intimacy, enhanced communication, elevated self-esteem, ability to relax inhibitions and enhance insight could be an asset to psychotherapy. Additionally, that MDMA may assist in establishing trust and breaking down barriers between therapists and patients, lovers and family members. It is estimated that between 1977 and 1985 approximately half a million doses of the drug were administered in this context in the United States (Elk 1996:354).

3.4.1. MDMA as an “Empathogen”

The unique quality which the MDMA family possesses can be summed up in one word: empathy. Metzner (1983) proposed the new name “empathogens” for the group of drugs known as phenethylamines, of which MDMA is an example. Empathogenic means “empathy generating”. According to Metzner (in Eisner 1989:33), “MDMA generates a profound state of empathy for self and other ... where the feeling is that the self, the other, and the world is basically good, is all right. This state can be referred to as the ground of our being, the core of our being... Then individuals using these substances can look at their own problems from the standpoint of stillness and empathy. They are able to do change work on themselves very rapidly, compared to ordinary therapy.”

Katz (in Eisner 1989:34) explains, "When we experience empathy, we feel as if we were experiencing someone else's feelings as our own. We see, we feel, we respond, and we understand as if we were, in fact the other person." Empathy means projecting our imagination outside of ourselves and into another human being. The experiencing of someone else's life world might be either physical, imaginary or perhaps both (Eisner 1989:34).

At this point one might be asking: "Empathy. So what? What is the value of taking a substance that can help you go beyond yourself and understand how others think and feel?"

Eisner (1989:34) maintains that empathy is both an enjoyable and a useful experience for healthy people to have and for those emotionally troubled, it can be invaluable as therapy. In the direction of growth and self actualisation, the experience of empathic contact offers the strengthening or revitalisation of existing relationships as well as helping in the formation of new ones. In terms of therapy, empathy promises to teach people to be kind to each other, to love one another rather than hurting each other.

Eisner (1989:35) proposes that when the emotionally troubled can get out of their self-absorbed way of seeing the world and stand, for a moment, in someone else's shoes, they begin to realise that others have feelings, senses and hurt, just like they do. This may go a long way to discouraging them from violence. He believes that in a world of too little love and too much violence any tool emphasising the former and reducing the latter is worth looking into.

Empathy also helps in healing close relationships. MDMA has been used in family therapy and marital counselling to get meaningful dialogue going within these relationship systems. MDMA sessions enhance intimacy and allow for direct, loving and honest verbal communication of what is real and meaningful between participants (Eisner 1989:35). After the MDMA session, the content of what has been discussed continues to make sense to the participants in a non "dosed" state.

The most complete study of MDMA's effects published to date was conducted by Greer and Tolbert (1986) who administered the drug to twenty-nine subjects in a therapeutic setting. The group was screened to exclude serious psychiatric problems and contraindicated medical problems such as heart disease and hypertension (Eisner 1989:36). Most of the subjects were

given an oral dose of 75-150 mg of MDMA. After about two hours, they were offered a second dose of 50-75 mg (Beck & Morgan 1986:294). It was reported that every subject experienced some benefit from MDMA during his or her session. Twenty seven felt closer and more intimate with anyone present. All 21 subjects who had sessions in couples or groups experienced more closeness and/or enhanced communication. Two found it easier to receive compliments or criticism (Greer & Tolbert 1986:321).

The general conclusion of this study was that the single best use of MDMA is to facilitate more direct communication between people involved in a significant emotional relationship. Not only is communication enhanced during the session, but afterward as well. Greer and Tolbert (1986:327) believe that once a therapeutically motivated person has experienced the lack of true risk involved in direct and open communication, it can be practised without the assistance of MDMA. This ability can not only help resolve existing conflicts but also prevent future ones from occurring due to unexpressed fears or misunderstandings. Regardless of the mechanism, most subjects expressed a greater ease in relating to their partners, friends and co-workers for days to months after their sessions (Greer & Tolbert 1986:327).

3.4.2. Opening up

The initial phase of the MDMA experience occurs about half an hour after ingestion. This period lasts from 15 minutes to 30 minutes. It is at this time that the sensation of "opening up" is felt most intensely. Naranjo (in Eisner 1989:39) called this period of the session "a brief, fleeting moment of sanity." During this "peak", unexpressed feelings or emotions flow freely between participants in the session (Eisner 1989:39). Van Alstyne (in Eisner 1989:39-40) states:

"The major effect we have noticed is definitely relational in nature. That is, XTC tends to dissolve the barriers people normally interpose between themselves and others and thereby allows the true feelings present at the heart level to manifest themselves. This is immediately felt when the drug first comes on. Upon looking at your partner's eyes, you will no doubt find that you are seeing her or him in a way that you have never experienced before, or perhaps only rarely or partially. There is a sense of incredible beauty and perfection in your perception of the other person and a feeling of absolutely unconditional love. Social factors which may have conditioned your love for that person, such as considerations about the person's

opinions, goals, habits and particularly fears about the state of the relationship or its eventualities, are felt in a completely different light, if at all. Communication becomes effortless, even when worries or differing feelings are expressed. There is the certainty that the other individual is perfect and infinitely beautiful just as he or she is, even when the differences expressed have been issues in the relationship up to the present. It seems possible only to be in a truthspace (relating truthfully) during the XTC experience and the truth experienced is the truth that grows out of unconditional love.”

Unconditional love refers to the sort of love which places no expectations on the beloved. It comes from a total acceptance of the individual just as they are. According to Eisner (1989:40), it can be seen as an interpersonal reflection of the feeling of the “all rightness of the universe”- seeing just the basic fact of being alive as enough for happiness with all of life’s troubles and cares- experienced on MDMA intrapersonally. This experience of unconditional love is similar to the unconditional positive regard that Carl Rogers recommends that therapists have towards their clients.

In fact, MDMA has been consistently proclaimed by therapists as facilitating an open relationship between therapist and client, in which material that might normally be withheld can be expressed. This makes it useful, for example, in a diagnostic interview early in therapy. Therapists call this approach “breaking down the walls” between therapist and client or good transference (Eisner 1989:40).

A possible use for good transference would be in hypnotherapy. For deep hypnotic trance, it is essential that there be trust established between hypnotist and subject. MDMA may facilitate conditions of trust. This has been backed by anecdotal information from hypnotherapists who have attempted trance work using MDMA. They have found that MDMA facilitates induction of trance and results in deeper trances (Eisner 1989:40).

3.4.3. MDMA as an Entactogen

When MDMA initiates begin to describe their first experience, the most common themes mentioned are interpersonal. Words and phrases likely to be mentioned include “opened up,” “love,” “communication,” “contact,” “deep connection,” “empathy” and other terms that show the individual was able to relate better with others. Yet there is another part to the MDMA

experience- the world within, the intrapersonal. Another term for MDMA was coined by Nichols (1986). He calls MDMA an “entactogen” which is a composite of Latin roots meaning “allowing for a touching within”. This side of MDMA as entactogen - affecting a transformation of the inner psyche - has uses in therapy and problem solving, meditation, self actualisation and creativity (Eisner 1989:51).

Having made the distinction between the interpersonal and intrapersonal modes of experience, it should be noted that the two aspects are closely linked. When a person feels better about others he or she also feels better about herself or himself. Feeling better about ourselves is the inward side and feeling better about others, the outward side of the same experience.

Ordinarily, people experience a certain amount of anxiety during day to day life. Worries about various areas of life cloud ordinary consciousness. Individuals are prevented from enjoying the present moment by nostalgia and regret about the past, as well as uncertainty about and fear of the future. MDMA allows all those worries to disappear. Eisner (1989:52) expresses the experience as follows: “Imagine that the clouds lift and that blue sky breaks out, spreading until it fills the entire half hemisphere surrounding us. The blue sky is the mind unfettered by problems. Just being alive now seems all that is necessary to be happy. All of those other conditions that were placed on happiness before ...disappear.”

Metzner (in Eisner 1989:52) compares this intrapersonal experience on MDMA to “a still point of being.” During many Ecstasy sessions there comes a moment of calm, of complete stillness, which some mediators have compared to the head space achieved during the practice of meditation. Because MDMA is a modification of amphetamine, it is this stillness which drug researchers pointed to when they suggested the class of drugs represented by MDMA and MDA as having a “paradoxical effect”. When someone takes an ordinary amphetamine such as dexedrine, they usually become agitated, restless and driven. Yet this class of amphetamine derivatives- strangely, paradoxically- brings a peaceful, relaxed, calm state upon the mind and the body (Eisner 1989:52).

Greer and Tolbert’s study discuss some of the main intrapersonal effects observed. The first are some of the benefits which were reported. All 29 subjects reported positive changes in their attitudes or feelings. Sixteen felt warmer, fresher, more alive, euphoric or loving feelings.

Ten subjects mentioned greater self-confidence or self acceptance, and ten felt their defences were lowered. Two of these and five others reported undergoing a therapeutic emotional process. Five participants said they had a transcendent experience. Five noticed having fewer negative thoughts or feelings. Three felt more self-aware or self-grounded and two reported feeling blessed or at peace (Greer & Tolbert 1986:320).

Twenty two subjects reported some cognitive benefit: an expanded mental perspective, insight into personal patterns or problems, improved self-examination or "intrapsychic communication skills" or "issue resolution". Five subjects used a low dose (50mg) to facilitate their creative writing abilities. All found it quite useful. Five subjects reported clear cognition or enhanced presence of mind (Greer & Tolbert 1986:321).

Eighteen subjects described positive changes in their mood or emotional state, lasting from several hours to several weeks and averaging about one week. Fourteen reported having more good feelings. Five of these specifically mentioned euphoria or improved mood and four mentioned an increase in energy. Eleven reported feeling more relaxed, calm, detached, serene and or less anxious or agitated.

Twenty three reported positive changes in attitude lasting from a week to a follow up time of two years. Again, the average duration was roughly a week. Sixteen subjects reported belief changes that persisted after sessions, but rarely did two report the same specific change. All changes resulted in a more positive belief about themselves, individually or in their relation to others or to the world in general (Greer & Tolbert 1986:323).

There was a tendency amongst subjects for relief of low self esteem and toward greater self acceptance. As these benefits and positive changes suggest, MDMA has important uses in psychotherapy. Thus it can be seen that social, extroverted, empathogenic Ecstasy has an inward side. Just as the tendency of MDMA to enhance interpersonal contact can be used, so can the introspective dimension of the experience (Eisner 1989:73). Although it is convenient to divide the experience, it must be stressed that the experience with MDMA is a holistic event. Therapeutic effects reported are based on both internal and external change.

3.4.4. Therapeutic applications

The reports on the benefits of MDMA although anecdotal were uniformly positive. In the discussion of MDMA's effects, the therapists using it felt it displayed a unique action that enhanced communication, especially in couples therapy. The drug reduced defensiveness and fear of emotional injury, thereby facilitating more direct expression of feelings (Greer in Eisner 1989:09). Reports of MDMA's facilitation of individual psychotherapy were also favourable. Many subjects experienced the classic retrieval of lost traumatic memories, followed by the relief of emotional symptoms. Victims of child abuse and sexual attack experienced the most dramatic benefits (Greer in Eisner 1989:09). Wolfson (in Eisner 1989:09) also reported having multiple MDMA sessions with psychotic individuals and their families, leading to improvements in the patients' functioning and ego integration. Wolfson (in Beck & Morgan 1986:294) concluded that "MDMA provides a positive alternative to the dark and negative experiences of people experiencing psychotic states".

According to Glanzrock (1994:16), MDMA has been used to relieve pain and emotional distress in terminal cancer patients, speed the recovery of those suffering from post traumatic stress disorder and has also been used to treat patients suffering from depression, anxiety, rape-related trauma and schizophrenia. Watson (1986), a cancer patient, alludes to how MDMA was a catalyst to help her deal with the anger and the pain of her terminal disease. She stated "MDMA is not an ecstasy drug. It allows you to see the world more clearly and to heal yourself. You realize that you don't need negative emotions, old emotions, any more and you can let them go," (in Eisner 1989:12).

One of Greer's clients was a terminal cancer patient in his early seventies. He had had four MDMA sessions in a nine month period and these were the first times he had been really pain free in four years. In his first session, he experienced "being inside his vertebrae, straightening out the nerves and 'gluing' fractured splinters back together." In between sessions, he had "greater success in controlling painful episodes by returning himself to an approximation of the MDMA state." He noted in particular that the feelings of 'cosmic love' and especially forgiveness of himself and others would usually precede the relief of physical pain (Greer in Albery 1997:02).

In general, therapists believed that a major advantage of MDMA over the traditional psychedelics is that it produces far less distortion of sensory perception and fewer unpleasant emotional reactions. Beck & Morgan (1986:294) affirm that the MDMA experience is generally seen as both personal and familiar and seems to differ only in its degree of intensity from that of everyday experience. This is in sharp contrast to the effects of most other psychedelics, where the experience is often perceived as unfamiliar and transpersonal.

Although research suggests that MDMA has significant therapeutic potential, the widely known absence of well-controlled, double blind studies limits conclusions about the possible efficacy of MDMA in therapy. As Siegel (in Beck & Morgan 1986:294-295) noted, "MDMA has been promoted as a cure for everything from personal depression to alienation to cocaine addiction... It's got a lot of notoriety, but the clinical claims made for its efficacy are totally unsupported at this time."

Researchers and therapists are aware that only formal, well controlled research will appropriately assess the true therapeutic value of MDMA. However, as Greer (in Beck & Morgan 1986:295) optimistically noted, "Because every therapist I know who has given MDMA to a patient has found it to be of significant value, I am convinced that it can be shown scientifically to be efficacious".

Recently MDMA is being reconsidered for medical use as an adjunct to psychotherapy. In 1994 the FDA for the first time, formally approved MDMA for research in humans. Studies to establish basic human safety and effects on brain chemistry are under way (Glanzrock 1994:17). Doblin (in Albery 1997:01), who runs a centre for research into MDMA and the psychedelic drugs, believes that it now seems likely that the therapeutic properties of MDMA can be separated from the toxic properties. If this proves to be true, and once the contra-indications are more firmly established, it may be possible to recommend MDMA or a variant of it, for its therapeutic potential as a relatively mild psychedelic normally without the hallucinations and loss of ego that LSD can cause (Albery 1997:01).

Wolfson (in Albery 1997:02) argues that there is "a volume of experience indicating that MDMA is effective in the treatment of depression, marital discord and couple therapy." His research leads him to believe that the drug offers "unique possibilities in the treatment of

psychosis.” Wolfson believes that drugs such as MDMA could help maintain or increase a sense of non-psychotic identity, reduce aggression and paranoia and improve communication and empathy. He envisages such a drug being used on a voluntary basis for five hour sessions once every five days, with daily psychotherapy in between (in Albery 1997:02).

Greer (in Albery 1997:02) is just as enthusiastic: “We have not heard of any long-lasting problems following MDMA sessions supervised by professional psychotherapists. Because of this fact, we have not been overly concerned by the reports of neurotoxicity in animals. We currently believe that, for all but extremely rare cases, there is a significant gap between the highest therapeutic doses and clinically significant toxic doses.”

In Switzerland, with permission from the government, six doctors are using MDMA and other psychedelics in the treatment of patients suffering from reactive depression, addictive disorders, character neuroses, phobias, obsessive-compulsions and anorexia nervosa (Albery 1997:03). According to Albery (1997:03), their preliminary reports appear encouraging.

3.5. *DOSAGE AND MODE OF USE*

MDMA is a white powder which is most commonly administered orally as a pill or capsule. Pills are by far the most frequently reported form of Ecstasy available, followed by capsules. Ecstasy is also reported as being available in powdered form. A study by Solowij, Hall and Lee (1992:1165) indicated that 98% of the time, Ecstasy was swallowed, but snorting, injecting and suppositories were also related as less frequent methods of taking it, by small proportions. The fact that people do experiment with different ways of taking Ecstasy is apparent in that 41% of the sample in Solowij et al’s study, claim to have noticed differences in the effects of Ecstasy by taking it in different ways.

Injecting (although rare) was reported as having the quickest onset and producing a more intense but shorter lasting experience. Snorting was reported as being quicker to take effect but shorter lasting, while a suppository had a slow onset but produced a more intense and prolonged experience (Solowij et al 1992:1165). The oral method is generally preferred because it produces the longest, smoothest high with the least amount of stimulant side-effects. At times a small quantity of MDMA will be swallowed or inhaled as a “booster”

after the initial oral dose begins to wear off. A continuous use of boosters, however, generally leads to great fatigue the next day (Beck & Morgan 1986:293).

The effectiveness threshold is around 30mg and toxic effects begin to increase sharply over the 200 mg dose level (Erowid 2000:01). The usual dose ranges from 75 mg to 150 mg (Randall 1992:1506), with 125 mg being about average, depending upon the person's weight (Beck & Morgan 1986:293). The more you weigh, the more you must take to have the same effect. A complicating factor is that each individual responds idiosyncratically to a given dose of MDMA. Some are very sensitive, while others might be resistant to having an effect on even high doses. (See table 3.1). This may be due to variations in metabolism or to psychological factors (Eisner 1986:113). Great variations in potency have been reported by laboratory analysis of street samples ranging from 16 mg - 150 mg which indicates quality and dose control issues. The result of this inconsistency in dosage may be acute intoxication or fatal overdose (Elk 1996:351).

MDMA is a peculiar drug in that there is a small ratio between its threshold dose and a dose that is too large. A larger dose than 200 mg will produce an MDMA experience, but one more like that of amphetamine- a jittery, anxiety provoking stimulant high. The paradoxical effects of the drug are lost at these high dosages (Eisner 1989:113). Furthermore, a very high dose might be physically harmful or even lethal. Under no circumstances should anyone take a dose over 250 mg (Eisner 1989:114).

Table 3.1. below shows dosages for pure MDMA in humans, measured in milligrams (mg):

(Source: Erowid 2000:01 http://erowid.org/chemicals/mdma/mdma_dose.html)

Threshold	30 mg
Light - optimal for small or sensitive people	50-75 mg
Common - optimal for most people	75-125 mg
Strong - optimal for large or unsensitive people	125-175 mg
Heavy - required by few (side effects increase)	200 + mg
LD 50 (Lethal dose *)	106 mg/kg or ~6,000 mg

*LD50 = dose which will kill 50% of the tested animals

[The estimated oral LD 50 for MDMA in tested animals, as noted above is 106 mg/kg, that is 106 mg of MDMA per kilogram of weight of the tested animal. The effective oral human dose is about 2mg/kg of weight. Thus there appears to be a comparatively large margin of safety in the use of MDMA in humans- the LD50 is 53 times the effective dose in humans.]

After the initial MDMA dose, a “booster dose” can be used to prolong the experience. This dose can range in size from 40 mg up to the size of the initial dose. A dose between 75 mg and 100mg has been used. The booster is usually taken about one hour after the onset of the first dose’s effects. Sometimes a second booster dose is taken in another hour. However, a second booster usually does not have the desired effect of enhancing the experience. Instead the taker is often made to feel anxious, jittery and sometimes confused by this third dose with little of the pleasant effects of the first two. This characteristic is one of the reasons why MDMA is not prone to abuse (Eisner 1989:114). However, this certainly does not mean that Ecstasy is not abused by young people.

MDMA’s cost in South Africa has ranged from R60 to R120 per pill depending upon availability and whether the source is known or not .

3.6. *EFFECTS*

Effects generally appear within twenty to sixty minutes when the user experiences a “rush” usually described as mild but euphoric. The “rush” may last from a few minutes to half an hour or not occur at all, depending on the user’s mental set and the environment, the dose ingested, and the MDMA’s quality. After the rush, the high levels off to a plateau usually lasting from two to three hours and followed by a gradual “coming down” sensation, ending with a feeling of fatigue. Insomnia, however, may persist long after the fatigue stage, depending on the dosage and the user (Beck & Morgan 1986:293). The effects of one tablet or dose last anywhere between 1 and 12 hours (median 5 hours) with residual effects lasting up to 32 hours (Solowij et al 1992:1165).

The effects of ingesting the average dose of MDMA (75-150 mg) can be divided into positive and negative psychological and physical categories.

Table 3.2: Reported Effects of Average Doses of MDMA (Elk 1996:351).

<i>Negative Psychological / Behavioural Traits</i>	<i>Positive Psychological / Behavioural Traits</i>
Poor concentration Anxiety/ Restlessness Visual hallucinations Fear of loss of control Paranoia Panic attacks	Euphoria Elevated self-esteem Closeness to others/ Empathy Talkativeness Overall sense of well being Acceptance Greater self-insight Heightened sensuality
<i>Negative Physiological Traits</i>	<i>Positive Physiological Traits</i>
Elevated systolic/ diastolic blood pressure Muscle hypertonicity Elevated heart rate Jaw clenching Transient nausea Insomnia Dehydration Hot/ cold flushes Nystagmus (flickering of the eyes)	Increased energy level Heightened sensory perception Desire to be in constant motion Appetite suppression High level of stimulation

3.6.1. POSITIVE PSYCHOLOGICAL EFFECTS

“The circuits of the brain which mediate alarm, fear, fright, fight, lust and territorial paranoia are temporarily disconnected. You see everything with total clarity, undistorted by animalistic urges. You have reached a state which the ancients have called nirvana, all seeing bliss” (Pynchon 1986:01).

The most universal and consistent psychological effect reported by MDMA users was a “positive mood state”. This quality was reported 94% of the time the drug was taken. The second most commonly reported effect was “activation” or energy (Solowij et al 1992:1166). Users cite a dramatic drop in defense mechanisms and increased empathy for others. Combined with the stimulant effect, this generally produces an increase in intimate communication (Beck & Morgan 1986:293). Other perceived positive psychological effects included a sense of euphoria, elevated self-esteem, feelings of spirituality, closeness to others and open mindedness. These qualities are reflected in the slang terms used for MDMA such as “Ecstasy,” and the “hug drug” (Elk1996:352).

3.6.2. NEGATIVE PSYCHOLOGICAL EFFECTS

The 1990's has seen the growing popularity and widespread use of Ecstasy as a recreational drug, resulting in increasing reports of an apparent association between Ecstasy use and a diverse range of psychological symptoms and psychiatric disorders (McGuire & Fahy 1994:391). Ecstasy has also been associated with lasting adverse neuropsychiatric sequelae in humans who have taken repeated doses (Schifano & Magni 1994:763). According to McCann and Ricaurte (1991:302), while under the influence of Ecstasy, users may sometimes experience confusion, disorientation, anxiety, panic attacks, depression, insomnia, depersonalisation, derealisation, perceptual disorders and hallucinations, paranoia and psychotic phenomena. It is possible that some of these effects may continue for a period after cessation of the drug.

Several researchers have found that MDMA causes alterations and sometimes permanent damage to serotonin regulated systems in the brains of experimental animals (Cohen 1995:1143). Battaglia et al (1988:270) reported that large doses of MDMA repeatedly injected into laboratory animals lowered the levels of the neurotransmitter (chemical messenger) in the brain called serotonin, and to a lesser extent dopamine, and damaged the nerve terminals from which serotonin was released. (*See section 3.9. MDMA neurotoxicity for more detail*). These effects were dose related and recovery was incomplete. Cohen (1995:1143) believes that Ecstasy may have altering effects on serotonergic mechanisms in the human brain as well. Jansen (1997:113) notes that there is some limited evidence of serotonin deficits in human Ecstasy users.

According to Jansen (1997) the relevance of animal studies to humans taking one or two Ecstasy tablets occasionally has been questioned. However, the animal studies do suggest that persons taking large amounts of Ecstasy for several days may be at some risk of persistently low serotonin (Jansen 1997:113). Many of the adverse effects reported have been well documented in the literature as having originated from abnormal neurotransmission of serotonin in the brain. According to Cohen (1995:1143) alterations in neurotransmitter systems, including brain serotonin, have been commonly associated with "the pathophysiology of depression, anxiety, headaches, sleep disorders, anxiety and sexual functioning and may serve as biochemical pathways for their idiosyncratic manifestation." It has been suggested

that heavy users of Ecstasy may be at increased risk of developing psychological problems of this nature (Jansen 1997:113).

Several subjects reported to be in psychotherapy and to be taking prescribed medications such as sertraline (Zoloft) and fluoxetine (Prozac) to help alleviate symptoms induced by Ecstasy. These medications were reported to be effective in managing side-effects following MDMA use. The efficacy of these particular medications further suggests that MDMA has an altering effect on the mechanism responsible for both the release and repackaging of serotonin, especially being that these medications amongst others are known to enhance the neurotransmission of serotonin (Cohen 1995:1143).

In attempting to explain adverse reactions to Ecstasy, the focus has to a great extent been upon possible brain chemical changes. Jansen (1997:114) points out that there has been a tendency to ignore the fact that Ecstasy releases emotions and can have marked effects upon the psychodynamic balance of the mind. One of the central concepts in psychodynamics is that anxiety provoking material "unacceptable" to waking consciousness is repressed into the unconscious, from where it may make itself known via dreams and other methods. Defences are erected against this material. Some psychotherapies may involve bringing such material to the surface so that it can be worked through and discharged (Jansen 1997:114). In this context it is significant to recall that MDMA was used in psychotherapy to remove "blocks" and defences (Nichols 1986:306).

Jansen (1997:114) maintains that if these defences against disturbing material in the psyche are removed in a non-psychotherapeutic context, there may be little possibility for working through the material or containing it. A possible consequence may be the range of symptoms associated with the neuroses: anxiety, depression, insomnia and nightmares for example, and these are precisely the symptoms that are associated with Ecstasy use.

Similarly, Beck and Morgan (1986:298) observed a delayed anxiety disorder in a few initiate users of MDMA. The indications "range from a mild anxiety or concentration difficulties, to a full-blown disorder such as a panic attack with hyperventilation and tachycardia, phobic disorders, parathesias or other anxiety states" (Seymour in Beck & Morgan 1986:289). In most cases, MDMA was taken in a non-professional setting for quasi-therapeutic reasons.

Seymour (in Beck & Morgan 1986:289) notes that it can be inferred “that through taking MDMA, much of their repressed anxiety, hostility, guilt or other so called negative feelings were released into their conscious minds. Prior to the time that this suppressed material was released into conscious consideration, they were probably protected by their normal defence mechanisms. After the release of this material, they are undefended and conscious of what emotional and psychological work needs to be done...In the cases observed so far, the clients seemed excellent candidates for psychotherapy before taking MDMA and most were comfortable with being told that psychotherapy was probably the treatment indicated for their present discomfort.”

These initial findings stress a growing danger of unsuccessful attempts at “self-therapy” by individuals who run the risk of aggravating their emotional problems with unsupervised sessions.

Nevertheless, much of the information available about adverse reactions to MDMA is in the form of single case studies and short, uncontrolled studies. Jansen (1997:115-120) underlines several key issues to bear in mind when considering publications of this kind:

3.6.2.1. Was the drug taken actually MDMA?

Jansen (1997:115) maintains that authors who say that a person took MDMA should attempt to present toxicological proof (tests of the tablets taken or at least a urine test), to support this claim as many pills sold as “Ecstasy” have been shown to contain other drugs instead, sometimes in dangerous combinations. Other drugs commonly found instead of MDMA are MDEA, MDA (predecessor to MDMA), MBDB, MDE, 2CB, Ketamine, amphetamine, LSD, pseudoephedrine and pharmaceutical agents. (*See glossary for the full names of substances*). Some pills contain no psychoactive substances at all. (*See figure 3.2 showing pill content*).

According to Jansen (1997:115), MDEA (MDE) has a shorter duration of action (2 hours) and is more amphetamine-like, having less emotional effects than MDMA. MDEA may possibly show a more similar profile to amphetamine in terms of adverse effects. MBDB is quite similar to MDMA but is described by some as less intense with a greater “cognitive” component as distinct from “empathogenic/emotional”. MDA is far more psychedelic (LSD-like) and is considered to be more toxic. 2CB is more psychedelic than MDMA but less

Figure 3.2: Contents of tablets bought as Ecstasy (MDMA).



so than MDA. Amphetamine is a very common additive and the links between amphetamine use and paranoid psychosis, for example, are well established. Ketamine is known to produce an out of body experience and can be very hallucinogenic.

It is thus apparent that some of the adverse effects which have been ascribed to Ecstasy may be due to “dodgy E” rather than pure MDMA.

3.6.2.2. *The role of polydrug use*

Jansen (1997:116) points out that the pure Ecstasy user is a very rare being. Most people who take Ecstasy also use other drugs, some of which are clearly associated with a risk of mental health consequences. This point is hardly ever emphasised in the case reports attributing a psychiatric disorder to Ecstasy use, where other drug use is often dismissed in a few lines. The concurrent use of large amounts of cannabis, LSD, alcohol and/or amphetamine, for example, is often pushed into the background.

A very large number of regular, weekend Ecstasy users are also daily or near daily users of cannabis, which makes the “come down” and mood cycle less apparent. This is an important factor to bear in mind when conducting research in this area (Jansen 1997:116). Wodarz and Boning (1993) reported a case of persisting depersonalisation syndrome after ingesting Ecstasy only once. It was subsequently pointed out by Gouzoulis and Hermle (1994) that this patient had a history of daily alcohol and cannabis use and a serious doubt was cast upon the role of Ecstasy in this case (in Jansen 1997:116).

The importance of poly drug use has been confirmed by a study of drugs taken at Raves where polydrug use was the norm amongst people who favoured Ecstasy. The preferred other drugs were cannabis, hallucinogens, amphetamines and hypnotics (Brown et al 1995:170).

3.6.2.3. *The role of set and setting*

According to Eisner (1989:104), the term “set” refers to what the drug taker brings to the situation, his or her personality, past experiences (including previous drug experiences), mood, motivations, attitudes and immediate expectations. “Setting” refers to the conditions of use, including the actual environment, both physical and interpersonal, that is including the “set” of other people present. Part of the set obviously is the purpose for which the substance is taken.

A pleasant set and setting are more likely to have a positive outcome, while an unpleasant set and setting are more likely to have a negative outcome. However, Jansen (1997:117) points out that Ecstasy effects are less susceptible to the influence of set and setting than psychedelic drugs such as LSD. Thus Ecstasy is a more predictable drug.

When groups of people take MDMA together, at a Rave for example, the interpersonal magic of Ecstasy is often multiplied in proportion to the number who take the substance. An MDMA party can generate unique social forms and facilitate bonding of people for friendship or romance (Eisner 1989:105). Although Ecstasy appears to energise the taker in a night club or Rave setting where fast music is played, in this context it is also likely that the drug ingested is not actually a full dose of pure MDMA, but rather a combination in which amphetamine features prominently or where amphetamine has been taken deliberately together with MDMA (Jansen 1997:117). According to Jansen (1997), it is possible that the drug is actually MDEA. Persons who have taken a substantial dose of pure MDMA in these settings may often be seen either standing on the sidelines or sitting in the quieter areas, possibly involved in emotional conversations with others (Jansen 1997:117).

Enthusiastic dancers sometimes avoid the emotional effects of MDMA by only taking small, stimulant doses at regular intervals, for example half a tablet periodically through the night, to obtain the stamina to dance for hours on end. Nevertheless, expectations do play an important part in all drug effects and there are many who wish to dance because they have been conditioned to associate this with Ecstasy, irrespective of the actual content of the pill they have swallowed, just as many will declare their love to others present for the same reason (Jansen 1997:117).

3.6.2.4. *The issue of causality*

Jansen (1997:119) asserts that many of the published reports draw cause and effect conclusions which are not justified by the data presented, that is they conclude that Ecstasy consumption caused the symptoms rather than being associated with the symptoms. He affirms that it is useful to consider whether the criteria suggested by Strassman (1984) and by Brabbins and Poole (1996) are met for research of this nature before concluding that Ecstasy did in fact cause the mental disorders described. The criteria proposed by Strassman (in Jansen 1997:119) are as follows:

“There is a tendency for people with poorer pre morbid adjustment, a history of psychiatric illness and/ or treatment, a greater number of exposures to psychedelic drugs, drug taking in an unsupervised setting, a history of poly drug use, and self-therapeutic and/or peer pressure submission motive for drug use, to suffer these complications.”

The use of other drugs in addition to Ecstasy, that the pill swallowed was not Ecstasy at all and variations in the set and setting of use have been considered as possible confounding variables or possible explanations for an association. Other such variables are: the probability of a chance association (Jansen 1997:119). Brabbins and Poole (in Jansen 1997:120) point out the importance of recognising that among the large group of drug users within the general population, a proportion will become mentally ill regardless of any supposed psychotomimetic properties of drugs. Depression and anxiety are common conditions in the general population. It is a statistical certainty that a percentage of persons who take Ecstasy will develop depression regardless of whether they took Ecstasy or not. Anxiety, panic attacks and all of the other symptoms associated with Ecstasy use also have an incidence, sometimes substantial, in the non-Ecstasy using population (Jansen 1997:119).

* *Poor pre-morbid adjustment:*

A poor adjustment to circumstances and life in general is associated with an increased likelihood of drug use and a worse prognosis when mental illness develops. Drug use may be a symptom of impending or actual mental illness as a result of “self-medication” of distress, or impaired judgement (Jansen 1997:119).

* *Pre-existing mental illness and a family history of mental illness:*

Such a history is common in persons who develop psychiatric illness in apparent association with drug use.

* *Pre-existing neurochemical, genetic and personality differences:*

Annually, new reports linking genes to receptor subtypes and subsequently to behavioural patterns emerge. Jansen (1997:119) illustrates the possibility that persons who take large quantities of psychostimulants may have pre-existing, genetically determined “under functioning” of serotonergic and/or dopaminergic systems. This “under functioning” increases

the likelihood of depression and anxiety and creates an inner drive towards becoming over involved with drugs which provide temporary relief from the problem. Thus, retrospective studies of serotonergic parameters in high dose, chronic Ecstasy users, in comparison with non-using controls, may be confounded by pre-existing differences between the two groups (Jansen 1997:119).

3.6.3. ADVERSE PSYCHOLOGICAL EFFECTS OF ECSTASY USE

3.6.3.1. *Psychotic phenomena*

Regarding serious mental illness such as prolonged psychosis, there is presently a lack of accurate statistics (Jansen 1997:120). Infrequently Ecstasy may produce a state of intoxication which mimics a psychosis, such as paranoia, but this does not usually last for more than a few days and seems to be quite rare (Williams et al 1993:44). Granted that Ecstasy is not a hallucinogen in most people, it can cause hallucinations on occasion, particularly in higher doses (Beck & Morgan 1986:291).

According to Jansen (1997:121), the use of Ecstasy may sometimes alter the clinical picture in a pre-existing psychosis such as schizophrenia. This is referred to as a pathoplastic effect. Some people with schizophrenia or manic-depression will also take Ecstasy, especially as the peak age of onset of schizophrenia is 20-30. It has not been clearly established whether or not Ecstasy can specifically induce a relapse of pre-existing schizophrenia or manic-depression, beyond the increased risk of relapse attached to any substantial emotional stressor. Jansen (1997:121) maintains that Ecstasy experiences are typically emotional events and for this reason alone one would expect to see an association with increased risk of relapse in serious mental illness.

According to Nichols (in Jansen 1997:121), Ecstasy releases dopamine in a similar way to amphetamine and cocaine and as such might be expected to increase the risk of psychotic illness in a similar way to other psychostimulants, although possibly not to the same extent. McGuire and Fahy (1991:697) report that they have repeatedly observed clear links between the onset of psychotic symptoms and the use of Ecstasy. However, Jansen (1997:121) points out that this study is based only on two cases, other substances were involved and there was no toxicological confirmation of pill content. Nevertheless, there are several other reports (Schifano 1991:1335; Schifano & Magni 1994:763-765) and taken together the evidence is

indicative of a risk. Jansen (1997:121) points out that the size of that risk is unknown at the present time, but is likely to be relatively small. Henry (1992) maintains that it will take many years to understand completely the real contribution of MDMA abuse to the onset of psychiatric disturbances (in Schifano & Magni 1994:763).

Concerning whether Ecstasy can cause a true “drug induced psychosis”, Poole and Brabbins (in Jansen 1997:121) have argued that the term “drug induced psychosis” should be restricted to psychotic symptoms arising in the context of drug intoxication but persisting beyond elimination of the drug and its metabolites from the body. Such a psychosis should also recur on exposure to the drug, and must have a different course and outcome from the major functional psychoses (that is, schizophrenia and manic-depression). According to Jansen (1997:121) the drugs for which there is at least some scientific evidence of such a syndrome are amphetamines, cocaine and cannabis. Ecstasy may eventually be included in this group.

3.6.3.2. *Anxiety disorders and panic attacks*

Rare episodes of hyperventilation have been noted. These almost always occur during the onset of the experience as part of a generalised panic reaction. Reassurance that the phase is transitory generally eases this problem (Beck & Morgan 1986:297). Many reports from people who have experienced negative effects in association with taking Ecstasy suggest that the recurring theme may be anxiety disorders rather than depression. This idea is confirmed by the published clinical reports in which types of anxiety disorder seem to be more common than depression. Jansen (1997:121) mentions the possibility that the serotonergic terminals in the brain, involved in anxiety control, are a distinct subset from those primarily involved in mood control, and that Ecstasy may preferentially affect the former. However, it is more likely that the real explanation lies in the psychological effects of Ecstasy in terms of impairing psychic defences against anxiety generating material in the unconscious, as discussed previously.

3.6.3.3. *Depersonalisation and derealisation*

Depersonalisation refers to the feeling that one is not ‘real’ and that one is detached and unable to feel emotion (Gelder et al 1995:149). The person may feel like an automaton or as if he or she is living in a dream or movie. There may be a feeling of being an outside observer of one’s mental processes, one’s body, or parts of one’s body (DSM-IV 1994:488). Sufferers may feel that they are separated from the world by a glass wall (Jansen 1997:122).

Derealisation is where the environment appears to be unreal and devoid of the usual emotional component (Gelder et al 1995:150). People may be described as “cardboard like”. Jansen (1997:122) asserts that although these phenomena have been reported in association with Ecstasy use, they may be due to fatigue and may be seen as symptoms in a wide range of disorders, including depression, anxiety, schizophrenia and temporal lobe epilepsy. Depersonalisation and derealisation disorder may also occur spontaneously, so once again care is necessary in drawing a cause and effect conclusion from an association which may be accidental.

3.6.3.4. *Depression*

A brief period of low mood associated with the “come down” is common, although experienced users will tend to avoid this by taking other drugs (Jansen 1997:122), such as smoking cannabis. Chronic Ecstasy use is also sometimes followed by a longer lasting depression (Benazzi et al 1991:1520). However, it is uncertain whether the chronic use of Ecstasy might not have been a form of self-medication of a pre-existing depression or latent depression, rather than actually causative of depression (Jansen 1997:122). Depression may be predicted on theoretical grounds due to links between mood and serotonin.

3.6.3.5. *Cognitive deficits (impaired memory, attention and concentration)*

Research into drug-induced cognitive deficits is difficult to do well. The number of possible confounding variables is high. For example, it is vital to control for the use of other drugs, especially regular cannabis smoking and for the effects of any mood disorder upon cognition (Jansen 1997:122). If subjects have been told to abstain from all drugs for several weeks, a withdrawal syndrome may result which could confound tests conducted during this period. Jansen (1997:122) asserts that all claims of cognitive deficits should be accompanied by evidence that the urine tests of the subjects were clear of drugs and their metabolites, particularly cannabis metabolites which can take at least 4 weeks to disappear from urine. Reports of subtle memory deficits which are not accompanied by urine test data may be due to cannabis use.

A report of memory deficits in association with Ecstasy use has been made by Bolla et al (1998). (*See section 3.9.4.9. on memory impairment for more detail*).

3.6.3.6. *The Pandora's Box Syndrome (PBS); busy head syndrome.*

Persons who have taken large amounts of drugs such as LSD, Ecstasy and Ketamine for a prolonged period may develop a mental state which involves a high level of internal, "mental" imagery but no perceptual disorder (Jansen 1997:123). It is as if little holes have been made in the defences which usually separate conscious from unconscious processes, resulting in material filtering through to the conscious mind where it would not normally be found. Jansen (1997:123) named this syndrome after the legend of Pandora's box- once opened, it proved impossible to push back in all that flew out. The condition is however not serious. It does not prevent the afflicted person from going to work or going about the normal business of life. Nevertheless, attention and concentration are impaired, which may lead to an apparently poor memory due to failure to attend to new information. The person may be said to have "lost their edge" or "lack focus". The imagery is intensified by the same factors that intensify flashbacks, mainly anxiety generating situations (Jansen 1997:123).

3.6.3.7. *Flashbacks*

Flashbacks have been reported by Ecstasy users (Creighton et al 1991:713). Flashbacks may be distinguished from psychotic disorders by their episodic nature, frequently of very short duration (seconds or minutes) and by their duplication (sometimes exact) of previous drug related experiences (ICD-10 1992:83). According to Jansen (1997:123) some flashbacks may be a form of post-traumatic stress disorder (PTSD), which is a psychological condition in which flashbacks (intrusive memories) and sleep disturbance result from severe psychological trauma. Flashbacks appear to be more likely following very traumatic drug experiences, which adds weight to the suggestion that some flashbacks are in fact PTSD or at least anxiety related. One of the cases cited by Creighton et al (1991:713) includes a woman who had been abducted and raped while under the influence of MDMA.

The Tenth International Classification of Mental and Behavioural Disorders (ICD-10 1992:147) classifies PTSD as "a delayed or protracted response to a stressful event or situation (either short or long lasting) of an exceptionally threatening or catastrophic nature." A small number of Ecstasy experiences may be very stressful and seen as catastrophic by the user. ICD-10 (1992:148) notes that pre-existing personality traits such as being compulsive or a past history of neurosis increases the probability of the subsequent development of PTSD and aggravates its course. "Typical symptoms include episodes of repeated reliving of the

trauma in intrusive memories (flashbacks) or dreams... there is usually a state of autonomic hyperarousal" (ICD-10 1992:148). Other flashbacks may be a form of psychological "conversion" disorder where anxiety with a neurotic basis is "converted" into psychological symptoms, just as it may be converted into physical symptoms such as a "paralysed arm" (Jansen 1997:123).

According to Jansen (1997:124), the probability that flashbacks are in fact due to persisting changes in the brain is considerably decreased by the observation that a wide range of drugs, with very different mechanisms of action in the brain (for example LSD and Ketamine) have also been linked to flashbacks. Ketamine use is as likely to result in flashbacks as LSD use. This once again demonstrates the importance of polydrug use in these limited series reports. Jansen (1997:124), also notes that persons who have never taken any illegal drugs but who are prone to severe anxiety and panic attacks may describe visual and other phenomena which bear a marked resemblance to the flashbacks described by some drug users. The similarity of the conditions which provoke such flashbacks also indicates a psychological rather than a neurochemical origin.

3.6.3.8. *Sleep disturbance*

Insomnia for several days after taking Ecstasy is relatively common, but in a few cases this has persisted for months (Elk 1996:353) with excessive dreaming and sometimes nightmares (Jansen 1997:124). A persistent reduction in stage 2 sleep has been verified by Allen et al (1993:562), although the subjects in this investigation were not considered to be suffering from sleep disorders. (*See section 3.9.4.3 on sleep EEG data for more detail*).

Negative psychological effects are described by users to be less severe than those of hallucinogens such as LSD and mescaline and are reported less frequently. These effects are seen more commonly with higher dosages of MDMA and are thought to be more frequent in subjects with predisposed sensitivity to the drug (Elk 1996:352). Symptoms for both acute high dose and chronic low dose problems seem to ease with cessation of use and resuming healthy living patterns (Beck & Morgan 1986: 298).

3.6.4. Tolerance versus Dependency versus Abuse patterns

An important issue to examine is the potential for dependency and /or abusive use patterns. In a study of MDMA users, Siegel (in Beck & Morgan 1986:297) cited that the most common patterns of use are “experimental” (ten times or less in lifetime) or “social-recreational” (one to four times per month). He also said that “compulsive patterns marked by escalating dose and frequency of use have not been reported with MDMA users.” However, it appears that this is no longer the case. The 1990’s have seen a change in the pattern of Ecstasy use where escalating dose appears to have become quite common as individuals try and “get more out of it”. According to McGuire and Fahy (1991:697), the use of almost any substance may become compulsive and excessive in some individuals.

The most frequent use of MDMA usually occurs during the first months following the initial experience. After first exposure, some individuals will attempt to continually re-experience the positive aspects of the drug. However, this abusive cycle tends to be short lived as the frequent use of MDMA almost always produces a strong dysphoric reaction, which is only made worse with continued use (Beck & Morgan 1986:298). The positive or pleasurable effects of Ecstasy diminish with frequent use. While the pleasurable effects decrease, side effects tend to increase, both with frequent use and with high doses of the drug (Solowij et al 1992:1170).

High doses of MDMA occasionally produce a variety of symptoms ranging from a “caffeine-like jitteriness to a well defined break with reality, accompanied by disordering of thought, mood and behaviour” (Seymour in Beck & Morgan 1986:289). With smaller amounts of MDMA, psychopathology is seldom displayed, although some restlessness, anxiety and insomnia may occur (Beck & Morgan 1986:298).

The increasing number of unpleasant side-effects combined with an almost total loss of desired effects occurs with greater rapidity and intensity than they do with other more commonly abused substances (Beck & Morgan 1986:298). Hayner and McKinney (1986:345) too report that the unpleasant side effects are experienced more readily following repeated doses, particularly within a few days of each other. There seems to be a point at which the unpleasant side effects increase to the extent where they outweigh the pleasurable effects originally sought by users of the drug. Because of this, recreational users report that they usually use

MDMA once every several weeks (Elk 1996:353). Most likely, this unusual and sporadic pattern of use is one of the reasons that MDMA is believed not to be physically addictive. There have been no cases of physical addiction reported to date (Elk 1996:353). However in an investigation of Ecstasy use by Solowij et al (1992:1169), 47% of respondents in the study expressed the belief that it was possible to become “addicted” to Ecstasy.

Ecstasy appears to be subject to the development of tolerance and tachyphylaxis (the rapidly decreasing response to a drug after administration of a few doses) and this clearly has some bearing upon its openness for dependence (Solowij et al 1992:1170). As expressed from a pharmacist’s perspective, Riedlinger (1985:169) stated that, “...there is no evidence at any rate, that MDMA is physically addictive.... the drug’s possible side effects... are more likely to discourage frequent use or high dosage abuse.” Solowij et al (1992:1169), found that 2% of the sample in their study considered themselves to be “dependent”(in a psychological sense), while 22% claimed they knew of someone who had been dependent on Ecstasy. The value of such a self-report is questionable however. Dependence on Ecstasy was described as a need to take it in order to cope everyday and the idea that one cannot go out without it, having fun becoming dependent upon having taken Ecstasy. Solowij et al (1992:1170) maintain that this is consistent with the proportion of dysfunctional users one might expect to find in any sample of recreational drug users. Whilst intensity of use increases the more severe side effects, more intense users tend to keep using, as do dysfunctional users of any drug.

3.6.4.1. Problematic Ecstasy Use

There are certainly those who have taken Ecstasy on a daily basis regardless of tolerance effects, for prolonged periods (McGuire et al 1991:697). It is far more common, however, for “problematic” Ecstasy use to involve consumption of the drug in 48 hour weekend binges with 4-5 days in between (Jansen 1997:125). As previously discussed, the experience of the “love effect” from Ecstasy quickly fades with repeated use and the effects become increasingly like those of amphetamine - jittery and “speedy”. According to Jansen (1997:125), this may partially explain some of the escalation in dose levels in recent years as some users will unsuccessfully be attempting to recover the mental state which they experienced initially, now impossible due to neurochemical and psychological changes in the brain resulting from repeated use. Other reasons for escalating dose levels may be the considerable drop in price and an observation from animal research that under functioning of serotonergic nerve

terminals results in increased use of amphetamine-like substances for pharmacological reasons (Jansen 1997:125).

The day after taking Ecstasy, if individuals have had a reasonable amount of sleep, not smoked a lot of cannabis and not gone clubbing all night, a substantial number of users feel quite uplifted in spirits. However, this cheerful mood has generally started to crumble by the second day and by the third day low mood, which can be quite severe, and irritability are common. This continues into the fourth day, with relative recovery of mood occurring on the fifth day. The cycle frequently repeats itself with Ecstasy use on the 6th and 7th days (Jansen 1997:125). Thus some persons may be said to be continually affected by the drug, even if they take it only on the weekends.

With repeated use, the effects of Ecstasy increasingly resemble those of amphetamine and the patterns of use may begin to have the appearance of a dependency problem, particularly in persons who are taking 25 pills Thursday to Monday month after month (Jansen 1997:125). The ICD-10 (1992:75) states that it is not necessary to take a drug every day before a dependency syndrome can be identified, nor is physical withdrawal essential to the diagnosis. The possibility that Ecstasy may be associated with tolerance, dependence and withdrawal syndromes will surprise those users who only take the drug occasionally in controlled circumstances as distinct from the 3 day party group (Jansen 1997:125).

Ecstasy has an effect on dopaminergic systems which is similar to that of stimulants associated with dependency and activates dopamine-based pleasure systems in a manner resembling amphetamine and cocaine (Jansen 1997:126). The dopamine levels are increased with the result being over-stimulation of the pleasure pathway nerves in the brain causing prolonged feelings of pleasure and excitement (<http://1998:01>). It was once believed that Ecstasy would be free of any dependency risk because of the rapid loss of the empathogenic "loved up" effect with repeated use. However, while loss of this effect may lead to diminishing use in an older group who take Ecstasy for its empathogenic properties, younger users in the Rave/dance culture may come to appreciate the more amphetamine-like qualities and have different expectations (Jansen 1997:126).

Jansen (1997:126) maintains that this younger group rarely take pure compounds and may have been conditioned from the outset to expect amphetamine-like effects from a pill, as many pills are in fact amphetamine or MDEA, rather than MDMA. Furthermore, polydrug use is very common amongst ravers. Many of those who party throughout the weekend, deliberately take amphetamine and other drugs in addition to Ecstasy. This results in an environment in which the particular effects distinguishing Ecstasy from other pleasurable stimulants, are diminished (Jansen 1997:126).

3.6.5. PHYSICAL EFFECTS

The physical effects of MDMA are more closely related to those of amphetamines than those of hallucinogens. The amphetamine like effects include dilated pupils, dry mouth and throat, tension in the lower jaw, grinding of the teeth and overall stimulation (Beck & Morgan 1986:293). The side effects are less troublesome when a small or moderate dose of MDMA is taken by a healthy individual. According to Beck and Morgan (1986:293), MDMA exerts a strong paradoxical effect of relaxation, bringing less attention to the side effects.

The universal physical effect of MDMA that is reported as positive by users is that of a high level of stimulation, described as feeling energetic or the desire to be in constant motion. Following these reported stimulant effects, were heightened sensory perception and appetite suppression (Elk 1996:352). Combined with its stimulant properties, MDMA is seen as perfect for the now established Rave/dance scene which involves people dancing for hours on end in clubs and warehouses.

3.6.5.1. NEGATIVE PHYSICAL EFFECTS

Consistent negative physical effects reported by MDMA users include nausea and occasional dizziness, often during the initial onset of the high (Beck & Morgan 1986:296). This feeling of nausea results in actual vomiting in some users. Many also complain of having an intense lower back pain at the onset of ingestion (Cohen 1995:1140). Other negative effects commonly reported are flickering of the eyes (nystagmus), muscle hypertonicity (stiffness), elevated pulse rate and blood pressure. Less frequently reported are tremors, dry mouth, insomnia, hot and cold flushes (Elk 1996:352), headaches and blurred vision (van Aerts 1997:94).

One of the most common annoying effects is a tension of the jaw muscles (trismus), often progressing to involuntary grinding of the teeth (bruxism). A way for relieving jaw tension is to chew gum (Eisner 1989:120) or suck on lollipops. This has become a common sight in the Rave setting where young and old alike sport lollipops. There is also a link between taking Ecstasy and a desire to smoke excessively, which may be related to the effect of these drugs upon dopamine pleasure systems in the brain. Respiratory illnesses are a common result when the smoker is moving from a hot dance environment to the cold night outside (Jansen 1997:124).

Most of these side effects subside within 24 hours. However, complaints of muscle tension in the jaw continue for two days to six weeks, blurred vision up to three days and psychological effects like insomnia, depression and anxiety up to eight days (van Aerts 1997:94).

Individuals on Ecstasy become dehydrated and should be drinking water or juice throughout the experience. Unfortunately, some choose to drink alcoholic beverages, which increase the dehydration. As with other stimulants, individuals under the influence of MDMA are often capable of consuming large amounts of alcohol with few noticeable effects until a short time later. Thus, overdose of alcohol likely plays a role in the next day's hangover (Beck & Morgan 1986:296). The potentially toxic interaction between MDMA and alcohol warrants further investigation.

MDMA may exert an adverse action on the immunological response of some individuals. This effect is most often associated with repeated high dosages, particularly in individuals who have used the drug over a long period of time (Beck & Morgan 1986:296). Long-term users often describe increasingly uncomfortable and prolonged "burn out" periods, sometimes lasting two or more days. Many individuals have also reported a greater susceptibility to various ailments, particularly sore throats, colds, flus and herpes outbreaks. Latent infections in the female genito-urinary tract can become activated. These reactions appear to be rare in novice users and individuals in good physical and mental health (Beck & Morgan 1986:296).

Based on the limited information available, researchers have identified the following medical conditions as possible contraindications to MDMA use: diabetes, diminished liver function, epilepsy, glaucoma, heart disease, hypertension (high blood pressure), hypoglycaemia (low

blood sugar levels), hyperthyroidism (over active thyroid) and pregnancy (Beck & Morgan 1986:297). Since MDMA increases the blood pressure and raises the pulse rate, it may be harmful for people with cardiac problems and hypertension. In such cases the likelihood of cardiac arrhythmias, cardiac arrest and having a stroke is increased (Saunders 1997:85). MDMA also taxes the liver and may increase the probability of hepatitis and jaundice in those who have diminished liver function (Saunders 1997:83). Although there is no known effect on blood sugar MDMA does increase energy levels and this may be harmful in diabetics since diabetics need to adjust their sugar intake or insulin dose to allow for physical activity (Saunders 1997:86). The neurochemical or electrochemical changes in the brain induced by taking MDMA can trigger epileptic fits (Jansen 1997:). The use of any stimulant when pregnant is not advisable. It appears that the use of Ecstasy when pregnant may increase the risk of congenital abnormalities, especially heart defects, in the babies born. Further research into a larger number of pregnancies is nevertheless essential in order to firmly establish whether MDMA itself causes these defects (The Natal Witness 1999:09).

3.6.6. ACUTE PHYSICAL REACTIONS

Acute or toxic physical and psychological effects seem to be more frequent or exacerbated with higher doses of MDMA and also with combinations of MDMA and other drugs (Elk 1996:352). According to Henry, Jeffreys and Dawling (1992:386) the predominant toxicity patterns that emerge from the medical literature are fulminant hyperthermia (overheating), convulsions, disseminated intravascular coagulation (blood clotting in the blood vessels; DIC), rhabdomyolysis (dissolution of skeletal muscle) and acute renal (kidney) failure (ARF). DIC and rhabdomyolysis may be brought about by the hyperthermic condition while rhabdomyolysis can also be caused by acute renal failure. Acute liver failure is another serious complication reported in association with the use of MDMA and can also precipitate from a hyperthermic condition (van Aerts 1997:92). Other acute effects reported by Hayner and McKinney (in Elk 1996:353) include vomiting, visual hallucinations, tachycardia (increased heart rate), hypertonicity of the body, hypo/hypertension (low/high blood pressure) and palpitations. Fatal reactions to MDMA are usually cardiac in nature as acute intoxication usually results in adrenalin- like overactivity and overstimulation of the heart (Elk 1996:353). (*See table 3.3. MDMA toxicity in humans*).

Again these reactions have been seen with high doses, combinations with other drugs or in users with pre-disposing conditions. Although associated with relatively few overdoses or deaths, MDMA's neurotoxic potential is cause for concern. The most controversial issue surrounding the safety of MDMA is its effects on the brain chemicals serotonin and dopamine and its possible neurotoxicity (Elk 1996: 352-353). (*See section 3.9. Neurotoxicity for more detail*).

3.6.6.1. MDMA DEATHS

It is important to recognise that the number of deaths related to MDMA is relatively small compared with the likely frequency of its use. In the United Kingdom, the Ecstasy related death rate per ten thousand (10 000) 15-24 year old users is between 0.2% to 5.3% (Gore 1999:01). Nevertheless, MDMA deaths are especially puzzling as they are unpredictable. In some cases, other people appear to have taken similar quantities of Ecstasy from the same source as the overdose victim, with only minor toxic effects. One theory is that variations in metabolism of the drug caused by genetic differences or concurrent use of other drugs may result in differential susceptibility to MDMA overdose (White et al.1997:117).

The causes of death after MDMA ingestion are not well documented. Certainly, hyperthermia (heatstroke) and its consequences seem to be of major importance, and results of animal studies suggest that environmental temperature may be a critical determinant of susceptibility (Gordon in White et al 1997:117). This is the basis for recommendations about access to cool environments or "chill rooms" in night clubs and other dance venues. Henry (in Saunders 1993:02) believes that the cause of death is due to overheating, dehydration and exhaustion from dancing in hot clubs without drinking enough fluids. He maintains that ravers dancing on feel fine in conditions that would otherwise send them gasping for air and water, meanwhile increased body temperature can lead to strokes and internal bleeding. According to McFadyean (1997:75), the risk is reduced for people who look after themselves by drinking plenty of water and cooling off before they overheat, however the risk is greater for those who use high and frequent doses.

Be that as it may, excessive consumption of fluids has also been cited as the cause of death. The reason for such excessive fluid consumption is not understood, although MDMA is known to induce thirst. Additionally, high doses of amphetamine and amphetamine derivatives

induce repetitive behaviours in animals and humans. It is possible that the combination of thirst and repetitive behaviour patterns leads to excessive fluid intake. If urine output is also low, because of dehydration, impending renal failure and (possibly) other unidentified causes, then there is considerable potential for fluid overload and its consequences (White et al 1997:117).

It is now well recognised that hyperthermia plays a central role in these events and body temperature control is therefore an important means in preventing the serious conditions above. Providing the body with enough fluid is one way in achieving this, however it should be stressed that excessive drinking of water may lower the ionic strength (salt concentration) of the body fluids and cause tissues to swell (cerebral oedema), and can eventually lead to death (van Aerts 1997:93). Matthai et al (1996) described two cases that were shown to have developed mild cerebral oedema (abnormal accumulation of fluid in brain tissue) due to unrestricted water intake after ingesting Ecstasy (in van Aerts 1997:93). When very thirsty while on Ecstasy, it is therefore wiser to drink isotonic fluids instead of solely water.

Although raving for hours in a hot environment may aggravate the onset of a hyperthermic condition, it should be noted that MDMA by its pharmacologic action may lead to a rise in body temperature by itself. Severe reactions like hyperthermia and DIC were rare at the time it was used in more relaxed settings in the 1980's in the United States (van Aerts 1997:93). Nevertheless, observations of this type amongst ravers have recently become all too familiar in British medical journals (Randall 1992:1505). Cardiac arrhythmia (irregularities in the heart rhythm) are often also noted in emergencies that are brought in and are probably another way by which death may result, particularly in those that are predisposed by having cardiac abnormalities. The increase in the blood pressure and rise in heart rate caused by MDMA may be harmful in people with heart problems (van Aerts 1997:93). (*See table 3.3. MDMA toxicity in human users*).

Table 3.3. MDMA Toxicity in Humans adapted from Podraza (1999:10-12).

Source: (<http://www.maps.org/research/mdma/podraza.html>)

<i>Case</i>	<i>Identity</i>	<i>Dose & environment</i>	<i>Presentation</i>	<i>Blood MDMA</i>	<i>Outcome</i>	<i>References in Podraza (1999:10-12)</i>
1	-	15 tablets of E in 36 hours	urinary tract retention	-	Returned to normal	Bryden et al., 1995
2	18yrs M	3 tablets of E at a concert	T 40C, DIC, R	1.26mg/l	deceased	Campkin and Davies, 1992

3	19 yrs F	MDMA capsule at a Rave	Hyperthermia	detected	Returned to normal	Nimmo et al., 1993
4	17yrs M	2 tablets of Ecstasy at a party	T 41C, DIC	detected	deceased	Henry et al., 1992
5	18yrs M	3 tablets of E at a club	T41.8C, dec.BP	0.36mg/l	deceased	Henry et al., 1992
6	20yrs M	3 tablets of E at a club	T.40C, DIC, R, ARF	0.24mg/l MDA, MDEA & amphetamine	Returned to normal	Henry et al., 1992
7	21yrs F	several tablets of E at a party	T.41C, DIC, R, ARF	0.11mg/l	died after liver transplant	Henry et al., 1992
8	30yrs M	10 days after taking E at a party	BP 190/100, ARF, fluid overload	-	haemodialysis, died of cardiac arrest	Bingham et al., 1998
9	20yrs M	MDMA capsule	T.40C, dec.BP, DIC,R, ARF	1.16mg/l, MDA and amphetamine	deceased	Henry et al., 1992
10	18yrs F	Ecstasy, amphetamine & alcohol at a Rave	T.42C, R, DIC	MDA & amphetamine	liver damage	Jones et al., 1994
11	25yrs F	3 tablets of E	T.41.9C, R, DIC, hypoglycaemic	-	Returned to normal	Montgomery and Myerson, 1997
12	18yrs M	5 tablets of E at a party	T.42.1C	detected	deceased	Henry et al., 1992
13	20yrs M	18 tablets of E at a Rave	Hyperthermia	4.05mg/l	Returned to normal	Roberts et al., 1993
14	24yrs M	200mg of E	T.40.2C, R	-	Returned to normal	Sinarajah and Lavies, 1992
15	25yrs F	1 tablet of E and alcohol at a party	T.41.9C, DIC, hypoglycaemic	-	Returned to normal	Williams and Unwin, 1997
16	19yrs M	MDMA at a club	T.43.3C, DIC, R	MDMA & amphetamine	deceased	Screaton et al., 1992
17	20yrs F	2 tablets of E at a Rave	T.42C. dec. BP	2.3mg/l	deceased	Mueller and Korey, 1998
18	16yrs F	1 tablet of E	T.42C, dec. BP, DIC, Acidosis	0.424mg/l, stomach 28.0mg/l	deceased	Chadwick et al., 1991
19	32yrs F	100-150mg of E	T.41.6C, DIC, dec. BP, R	0.65mg/l	Returned to normal	Brown and Osterloh, 1987
20	17yrs M	10 tablets of E and alcohol at a club	T.42C dec. BP, DIC	0.23mg/l	deceased	Dar and McBrien, 1996

Table key: ARF = acute renal failure; BP = blood pressure; C = celsius; dec = decrease; DIC = disseminated intravascular coagulation; E = Ecstasy; F = female; M = male; MDA; methylenedioxyamphetamine; MDEA = methylenedioxyethylamphetamine; R = rhabdomyolysis; T = temperature.

*Fahal, Sallomi, Yaqoob and Bell (1992:29) suggest that a blood MDMA level >0.2mg/l is definitive of serious toxicity. Bost (in Podraza 1999:12) supports this conclusion stating a fatal range of 0.95 to 2.0mg/l.

3.6.6.2. *The Serotonin Syndrome*

A number of articles reporting on the adverse reactions associated with the use of Ecstasy in the recreational setting have implicated the serotonin syndrome. Sternbach (1991) and

Bodner, Lynch and Lewis (in Podraza 1999:09) state that the syndrome is diagnosed when a known central serotonergic agent is administered resulting in at least three of the following complications:

1. Mental status or behavioural change which may include confusion, agitation, hypomania or coma.
2. Alteration in muscle tone or neuromuscular activity which may include incoordination, shivering, tremor, hyperreflexia (exaggeration of reflexes), myoclonus (twitching or spasm of a muscle or group of muscles) and rigidity.
3. Autonomic instability which may include diaphoresis (profuse perspiration), tachycardia (heart palpitations), hypertension (high blood pressure) or hypotension (low blood pressure)
4. Hyperpyrexia (exceptionally high fever as in heat stroke) and
5. Diarrhoea.

Sternbach (1991) and Bodner, Lynch and Lewis (in Podraza 1999:09) further state that when the serotonin syndrome can be diagnosed in the presence of elevated temperature possible complications include DIC, rhabdomyolysis, cardiac arrhythmias, renal failure, seizures, coma and death. The syndrome has been specifically diagnosed in several cases of Ecstasy related toxicity and deaths and appears to be an accurate deduction considering that MDMA is a known central serotonergic agent.

3.6.6.3. *What is the appropriate action to reduce further deaths from MDMA?*

Amongst ravers, the view that MDMA is a relatively safe drug prevails. However, knowledge of the toxicity of Ecstasy and of the risks involved with the use of Ecstasy is scarce amongst those who consume it. Drug education programmes disseminating information so as to encourage disuse should be developed. Nevertheless, it is not a realistic expectation that ravers will stop using Ecstasy "en masse". Hence, as an intermediary precaution, they need to know how to use the drug without lethal consequences. White et al (1997:117) assert that guidelines for MDMA use should be considered. These should include recommendations on provision of suitable environments at venues where the drug is likely to be taken (for example, adequate ventilation in Rave clubs and access to "cooling off" areas). Other guidelines need to address educating users about appropriate fluid intake, the dangers of combining Ecstasy with other drugs, both illegal and prescribed, and the warning signs of toxicity. The latter are

particularly important, as obvious signs of acute toxicity have been ignored in several cases, possibly through ignorance or concern about risk of arrest for possession of an illegal substance (White et al 1997:117).

Amongst educators, a knowledge of which drugs are available in the illicit market and the toxicity of each is imperative. Differences in individual susceptibility to MDMA induced acute toxicity must also be addressed as it is currently impossible to predict which users will be most likely to experience such effects (White et al 1997:117).

3.6.7. Regarding adverse psychological and physical effects

Contrary to the media's many reports of extreme adverse reactions to Ecstasy, Solowij et al (1992:1170) maintain that in reality these are quite rare. Ecstasy is the least frequently seen drug of all clinical drug-related presentations. According to Solowij et al (1992:1170), the cases being reported in the clinical literature present extreme exacerbation of the physiological side effects of Ecstasy, such as hyperthermia (heatstroke) and ataxia (impairment of motor control), or with symptoms of toxic psychosis. Often these are triggered by some precipitating factor such as a pre-existing medical condition (Dowling et al 1987:1616) or arise due to extremely high doses being consumed, sometimes with other concurrent drug use (McGuire & Fahy 1991:697).

An animal study conducted by Battaglia et al (1988:270) suggested that the dose and the number of exposures to MDMA greatly contribute to the neurotoxicity and degeneration of neural serotonin uptake sites. However, Cohen (1995:1143) did not find there to be any relation between an individual's number of exposures to MDMA and recurring symptomatology. This would suggest that side-effects attributed to MDMA may be independent of the number of times one has ingested the drug and that even minimum exposure may elicit adverse symptomatology.

According to Jansen (1997:114), the observation that the duration of Ecstasy use and dosage are not presently linked to the probability of developing such symptoms tends to support an examination of psychological causes and suggests that the current focus upon neurotransmitter changes may be misguided, particularly in view of the remarkable lack of change in the behaviour of animals following chronic high dose injections of Ecstasy. Many of the reports

received from persons who have had adverse psychiatric sequelae in association with Ecstasy describe only taking a few doses. Nevertheless, it is still possible that rigorous scientific studies will eventually demonstrate a link between at least some adverse effects and dosage/duration of Ecstasy use.

It is possible that some users will experience idiosyncratic or allergic reactions to MDMA. It has been suggested that a combination of individual sensitivity or susceptibility and dosage may account for the cases of adverse reactions which are severe enough to come to light (Hayner & Mc Kinney 1986:345). Since Ecstasy is a sympathomimetic substance, it is not surprising that it produces adverse physical side effects. (A sympathomimetic substance is a central nervous stimulant (CNS) that mimics adrenaline responses (<http://2000:01>). Nevertheless, the majority of the people from the sample in Solowij et al's study (1992:1170) described these negative effects as mild, if they were experienced at all. Ecstasy produced no more severe side effects than other widely used drugs such as amphetamine and hallucinogens.

Even if the majority of users do not experience distressing side effects from use of Ecstasy, there still may be reason for caution in that the long term consequences of even problem free use are as yet unknown.

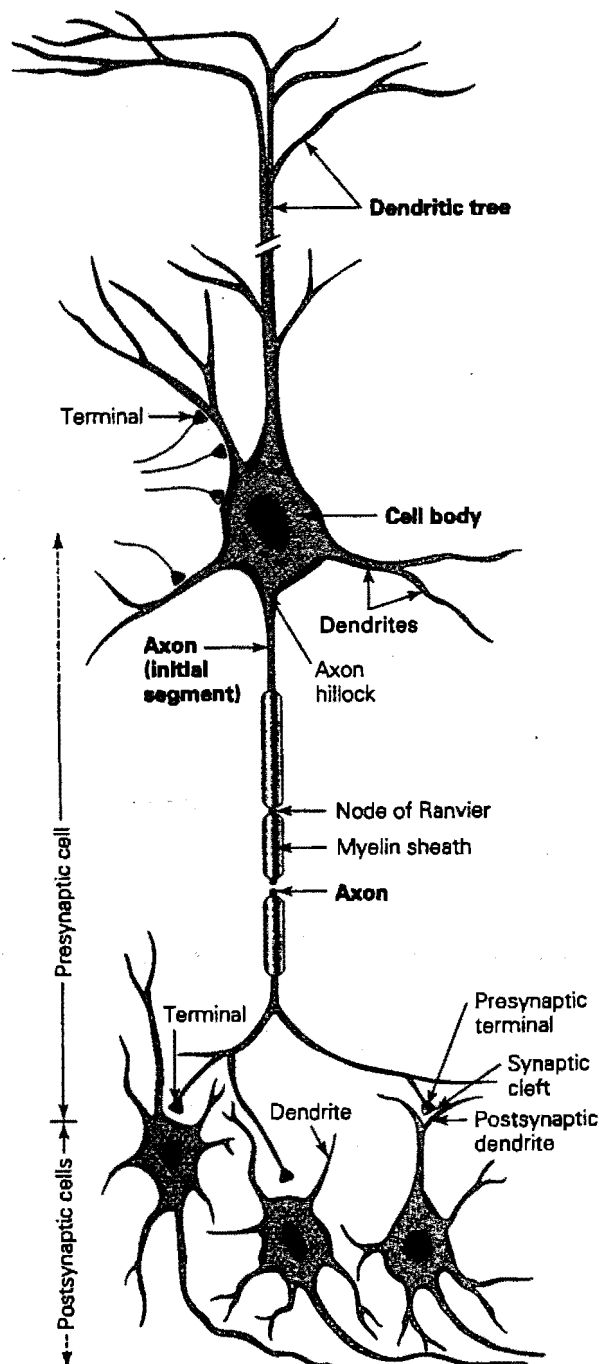
3.7. *MDMA AND THE BRAIN*

Another area which merits discussion is the question of what MDMA does in the brain. Nichols (in Eisner 1989:157-159) investigated the subject of MDMA's brain activity in which he studied the release of serotonin, a brain neurotransmitter, in whole rat synaptosomes. The results suggested that MDMA's activity might be due to the release of the serotonin transmitter.

The brain is made up of neurons, cells which transmit electrical and chemical signals through them and to one or more other neurons with which they are interconnected. (*See figure 3.3: The basic parts of a neuron*). Neurons have three main parts: a dendritic tree (composed of individual dendrites), a cell body and an axon. The dendritic tree is the part of the neuron that receives input from other cells. The cell body is the part of the cell containing the nucleus and other cellular equipment responsible not only for the making of proteins and enzymes that sus-

Figure 3.3 : The basic parts of a neuron.

The dendritic tree, made up of individual dendrites, is the main region that receives information from other cells. The cell body contains the nucleus and the machinery necessary to support basic cell functions. The axon hillock is the location at which a large electrical signal is generated. The axon is the long shaft of the cell across which this large electrical signal is propagated. Many axons are covered with a myelin sheath, which has intermittent gaps, known as nodes of Ranvier. The myelin speeds conduction of the electrical signal down the axon. The branches at the end of the axon contain bulbous-shaped terminals (or boutons), which have vesicles filled with neurotransmitters. These neurotransmitters, are released into the space between adjacent neurons, which is known as the synaptic cleft. The neuron on the terminal side of the cleft is known as pre synaptic and the neurons on the opposite side are referred to as post synaptic. Some synaptic connections are made onto post synaptic dendrites, whereas others are made directly onto the post synaptic cell body. An axon can have many branches, synapsing with as many as 1,000 other neurons. (Adapted from Kandel et al., 1991:19 in Banich 1997:04)



tain cell functioning, but also for the production of neurotransmitters, the chemical substances neurons use to communicate with each other. The axon is the long shaft of the cell across which a large electrical signal is transmitted. It can vary in length; in some cases it is very short, extending not much further than the length of the dendrites and cell body and in other cases the axon is very long, traversing centimetres. The points at which neurons make connections are known as synapses (Banich 1997:03-04).

These networks of neurons make up the circuitry by which the brain does complex tasks such as receiving sensory information, thinking and reasoning and sending commands to muscles. Neurons transfer information by means of a combination of electrical and chemical processes. The way that neurons transmit this information is complicated, but what is important here is that their transmission involves an electrical charge travelling down the length of the neuron to the terminal bouton of the axon, which contains synaptic vesicles, which are like little balloons filled with chemicals called neurotransmitters. The electrical signal causes the synaptic vesicles that are fused to the outside walls of the neuron to burst open, pouring their contents into the area between neurons, known as the synaptic cleft. At this point, the signal that was previously transmitted down the axon electrically is transformed into a chemical message (Banich 1997:04).

Once out of the vesicles the neurotransmitters diffuse across the cleft and bind with receptors on the dendritic trees of the neighbouring neurons. In this context, binding is the ability of a neurotransmitter to fit into a particular region of the post synaptic membrane that is characterized by a specific configuration, much the same way that a key fits into a lock. These particularly figured regions of the post synaptic membrane are known as receptor sites. (Imagine that the neurotransmitters are keys and the receptor sites locks.) Once bound, the neurotransmitters cause the difference between the electrical charge inside and outside the neuron to change within a small local area. These changes can make the electrical charge more positive or more negative than the resting potential (that is the difference between the electrical charge within a neuron and the electrical charge outside the neuron) (Banich 1997:05). At this point the chemical signal is transformed back into an electrical signal to be passed down the stimulated neuron to other dendrites. These stimulated neurons might then, in turn trigger other neurons, this process continuing to form long neural circuits, networks of activated brain cells (Eisner 1989:158). Receptor stimulation can also cause changes in the

brain's second messenger systems' proteins and result in, for instance, increases in cAMP and Ca^{2+} fluxes in the cell. The second messenger system is a multi-step signal amplification process used by the cell to transmit, for example, signals from many hormones that cannot enter the cell directly (<http://2000:01>).

According to Eisner (1989:158), many of these neurotransmitters resemble psychoactive drugs. The two principal neurotransmitters for one of the neuron systems (the cholinergic system), dopamine (DA) and norepinephrine or noradrenaline, are similar to the prototypical mescaline of the substituted phenethylamines. Serotonin (5-hydroxytryptamine, 5-HT), the principal neurotransmitter of the indolic system, is comparable to the powerful psychedelic drug psilocybin (Eisner 1989:158). 5-HT and DA are the ones that are of utmost importance in both the pharmacologic and the toxicologic action of MDMA (van Aerts 1997:94).

Psychoactive drugs can affect systems of neurons in several different ways. They can imitate the neurotransmitters themselves and plug into receptor sites just as the neurotransmitter native to the brain might. This could stimulate a firing of the affected neuron, or it might just tie up the receptor, keeping it from being activated by the brain's native neurotransmitters (Eisner 1989:158).

Psychoactive drugs can also keep neurotransmitters from being recycled once they are used. This is called blocking "reuptake". Or they might stimulate the brain's natural neurotransmitters to be released. It is this last possibility that Nichols and his colleagues (in Eisner 1989:159) suggest occurs with regard to MDMA. They also have contrasted this action with that from MDA, which they speculated may stimulate neurotransmitters directly affecting receptor sites.

The neurotransmitter systems affected may also differ between MDA, MDMA and MBDB. (See *glossary for full names*). Both MDA and MDMA, have significant effects on dopamine pathways in the brain, while MBDB does not. However, MDMA's effect is an order of magnitude less than that from amphetamine (Eisner 1989:159).

3.8. MDMA NEUROPHARMACOLOGY

MDMA is primarily a serotonergic drug. Serotonin (5-hydroxytryptamine, 5-HT) is one of the major neurotransmitters in the brain and is synthesized from tryptophan through the intermediate 5-hydroxytryptophan. Serotonin is synthesized in 5-HT neurons and stored in synaptic vesicles. These vesicles release their 5-HT into the synaptic cleft in response to the firing of the 5-HT neurons. In the synaptic cleft the 5-HT neurotransmitter exerts its action on both pre and post synaptic receptor sites (sites on the 5-HT neuron itself and on the neuron which it is communicating with). 5-HT is then taken back into the 5-HT neuron via the synaptic membrane 5-HT transporter ("reuptake pump"), where it is again stored or metabolized in the synaptic vesicles. 5-HT is metabolized (broken down) primarily by monoamine oxidase (MAO) into 5-hydroxyindoleacetic acid (5-HIAA) (Granquist 1992:01).

Serotonin is thought to be responsible for many psychological and physiological states including mood and sleep. According to Granquist (1992:01), it has been particularly associated with major depression and obsessive compulsive disorder and drugs to treat these disorders tend to stimulate 5-HT receptors or enhance the release of 5-HT, although things are not quite so clear cut.

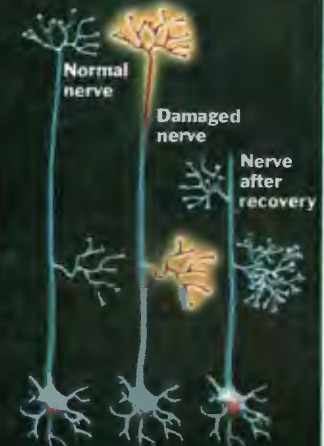
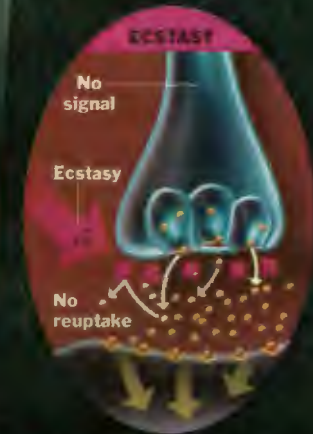
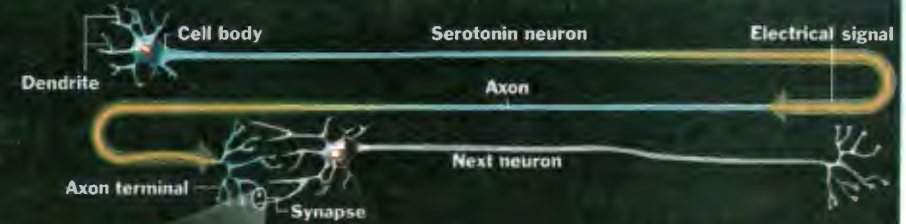
MDMA blocks the reuptake of 5-HT, similarly to SSRI (selective serotonin reuptake inhibitor) anti-depressants such as fluoxetine (Prozac), sertraline (Zoloft) and paroxetine (Aropax). Unlike those drugs, however, MDMA appears to enter the neuron, either through passive diffusion or directly through the reuptake transporter and causes the release of 5-HT. This release is calcium-independent, that is independent of the firing of the 5-HT neuron, and appears to come from cytoplasmic stores rather than from synaptic vesicles. The released 5-HT then enters the synaptic cleft through the 5-HT transporter. MDMA thus acts on 5-HT similarly to the way amphetamines act on dopamine (Granquist 1992:01). (*See figure 3.4*).

It is thought that this efflux (flowing out) of 5-HT into the synaptic cleft and the subsequent action of this 5-HT on pre and post synaptic binding sites is central to MDMA's neuropharmacology. MDMA, however has micromolar potency for the serotonin 5-HT₂ receptors (specifically 5HT_{2a} and 5HT_{2c}), muscarinic (M₁), alpha (α₂) adrenergic and histamine (H₁) receptors. Agonist (stimulation rather than blocking) properties at the 5-HT₂ receptor

how ecstasy affects the brain

1 Ecstasy primarily affects nerve cells that produce serotonin, one of several brain chemicals that transmit signals from one nerve to the next. Serotonin neurons originate in the raphe nucleus, near the base of the brain and, with long, threadlike extensions known as axons reach more distant regions. Release of serotonin by these nerve cells may be responsible for feelings of empathy, bliss and perceived insight

2 Axons can stretch to as much as 1 ft. (30 cm) long. Normally, serotonin is released when an electrical signal travels from the cell body down the axon. Serotonin is stored in tiny vesicles clustered at the ends of these axons and is deposited into a small gap called the synapse



3 The signal causes the filled vesicles to release serotonin into the synapse. Some of it is absorbed by receptors on the adjacent neuron and continues to propagate the electrical signal. The rest is broken down by enzymes or reabsorbed by the releasing neuron

4 Ecstasy causes the nerve cells to release all the stored serotonin at once, even without an electrical signal. The chemical floods the synapse, overwhelming the serotonin receptors. Ecstasy also keeps serotonin from being reabsorbed, further increasing the concentration in the synapse

5 The rush of serotonin may cause damage to the ends of axons. Most studies suggest that nerve endings die off but some indicate that they may grow back, although abnormally. These axons may return in denser formation, and may no longer reach the areas of the brain in which they are needed

TIME Diagram by Joe Lertola

Figure 3.4: How Ecstasy affects the brain.
Source: Time magazine, July 17 (2000:64-65).

have been found to be generally associated with “classical” psychedelic drugs such as LSD (lysergic acid diethylamide), psilocybin and mescaline. It is possible that some of MDMA’s “psychedelic” effect occurs because of interactions with this receptor (Granquist 1992:02). Adrenergic refers to neurons that use catecholamines or adrenalin as neurotransmitters at a synapse when a nerve impulse passes (<http://2000:01>). Adrenaline affects activity, increases both the heart and breathing rate and energizes. Hence the alpha (α_2) adrenergic receptor may be associated with some of the cardiovascular effects of MDMA (Granquist 1992:02).

MDMA also releases dopamine which may be central to both its psychological action and its neurotoxicity in animal studies. Pre-treatment of an animal with a drug which blocks dopamine release will also block MDMA neurotoxicity. Also, serotonin specific releasing agents which are non-dopaminergic have been synthesized and been found to be free of MDMA’s neurotoxicity in animals. They have also been found to be devoid of MDMA’s psychological effects. MDMA tends to indirectly “inhibit” the firing and release of dopamine in nigrostriatal dopamine neurons (neurons projecting from the substantia nigra to the striatum) due to local 5-HT release (Granquist 1992:02).

MDMA doses of 20mg/kg in animals can reduce or inhibit levels of tryptophan hydroxylase (TPH) (the rate-limiting enzyme in 5-HT synthesis) and therefore deplete axonal stores. It is thought that this occurs because of oxidative stress which MDMA places on the neuron. This oxidative stress might occur through several possible channels (the metabolism of MDMA into a toxic Quinoid, 5-HT derived toxins, 5-HT mediated cellular events, or temporary inhibition of monoamine oxidase) and the exact mechanism is presently unknown. It is thought that this oxidative stress also leads to the neurodegenerative destruction of 5-HT axons which is observed to occur with large doses of MDMA in animals. Antioxidants, anti-dopaminergic agents, agents which block intracellular calcium increases and pre or post treatment (up to 6 hours) with fluoxetine (Prozac) all block MDMA’s neurotoxicity (Granquist 1992:02).

In summary, MDMA effects 5-HT similarly to the way that amphetamines effect dopamine, by inhibiting the reuptake and causing the release of 5-HT. This effect is somewhat similar to the effect that SSRI anti-depressant drugs have. It also effects the 5-HT₂ (psychedelic) and alpha (α_2) adrenergic (cardiovascular) receptor sites. Also, its effects on dopamine appear at this point, to be involved both with its neurotoxicity and psychological effects.

3.9. NEUROTOXICITY

There is a growing body of literature suggesting a neurotoxic effect of MDMA on serotonergic nerve terminals. According to Elk (1996:352), the most controversial effect of MDMA at this time is its possibly irreversible neurotoxicity. Based upon laboratory experiments with animals, it has been suggested that even moderate or therapeutic doses of MDMA have adverse effects on the amount of the neurotransmitter serotonin in the brain. It must be noted however that the results of animal research may not pertain to human beings because of the difference in the amount of MDMA that is neurotoxic to rats and humans. In addition to the effects on serotonin, MDMA has also been suspected to act on another neurotransmitter, dopamine. Like the hallucinogen LSD, MDMA is thought to stimulate dopamine release thus contributing to behavioural toxicity (Elk 1996:352).

Ricaurte (1997:01) has carried out a series of pre-clinical and clinical studies designed to evaluate the neurotoxic potential of MDMA toward brain serotonin (5-HT) neurons. In the United States, in a number of western European countries, Australia and South Africa there is currently a great deal of interest in MDMA or Ecstasy. The reason is twofold: (1) MDMA has become a popular recreational drug and (2) in animals, MDMA has been found to damage brain serotonin nerve cells. Hence there is also concern that MDMA may also damage brain serotonin neurons in humans.

According to NIDA (National Institute of Drug Abuse) supported research, heavy users of Ecstasy, may be risking brain injury that remains long after the high has worn off. A scientific study by Fischer et al (1995) investigated the regrowth of rat and primate brain neurons previously exposed to extremely large doses of MDMA. The study was designed to determine whether there was long term restoration of normal levels of serotonin in those brain regions in which serotonin levels were previously reduced as a result of exposure to very large amounts of MDMA. Also examined was whether the regrowth of serotonin nerve terminals (reinnervation) restore the original brain structures.

Ricaurte and his colleagues (in Fischer et al 1995:5476) first determined that a single dose of MDMA only slightly higher than the size of doses normally taken, significantly damaged brain cells that produce serotonin. Serotonin is a major neurotransmitter or chemical messenger in the brain that is thought to influence mood, appetite, sleep and other important functions.

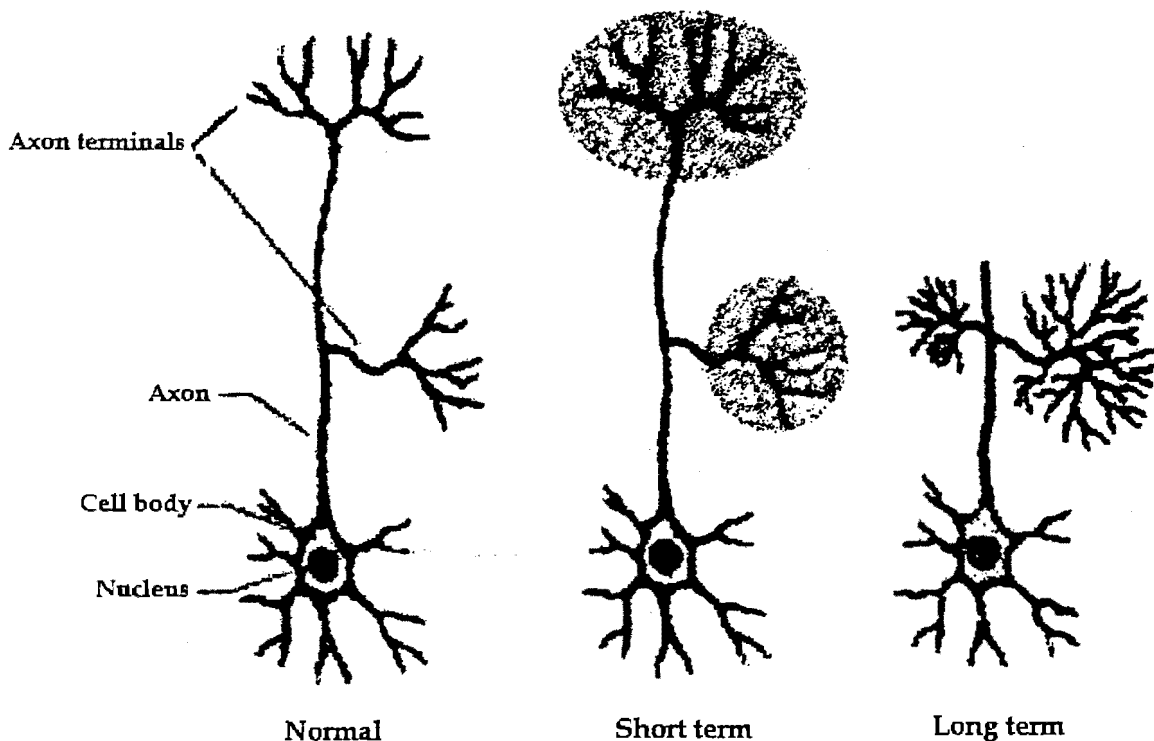
Ricaurte (in Mathias 1996:01) reported that 12 to 18 months after the brains of squirrel monkeys had been damaged by MDMA, serotonin producing nerve fibres had regrown abnormally in some brain regions and failed to regrow at all in others. Unlike amphetamine, which damages brain neurons that produce serotonin and dopamine, “MDMA selectively damages serotonin neurons in virtually all species examined to date,” (Ricaurte in Mathias 1996:01). (*See figure 3.5. showing neuron and damaged axon terminals*).

Mathias (1996:02) maintains that the doses of MDMA that some people take, closely approach the doses known to produce neurotoxic effects in animals. At this point, the major question is whether the neuronal changes seen in animals from methamphetamine and MDMA exposure occur in human beings who use these drugs. To help answer that question, Ricaurte conducted separate clinical studies using brain imaging techniques to evaluate the possibility of long term brain damage in humans who have previously used methamphetamine or MDMA. These studies also assessed the potential functional consequences of such neuronal damage on aspects of mood, movement, memory, impulse control, aggression and sleep cycles (Mathias 1996:02).

According to Ricaurte et al (in Mathias 1996:02), determining the functional consequences of MDMA exposure may be more complex than previously thought. The long term study with squirrel monkeys indicated that in some brain areas, such as those containing structures involved in memory and learning, damaged neurons failed to recover. However in other brain areas, specifically those involved in regulating such functions as sleep and appetite, damaged neurons regrew nerve fibre excessively, resulting in an overabundance of serotonin being released. This means that when humans previously exposed to high doses of MDMA are evaluated, neuroscientists should be looking for loss of serotonin function in some brain regions but perhaps normal or increased serotonin function in other regions.

Determining the possible damaging effects of Ecstasy has become more significant in recent years because the pattern of MDMA use has changed. Although Ecstasy has been available as a street drug since the 1980's, its use escalated in the 1990's among students and young adults, particularly those who participate in all night dance parties called Raves. (*See chapter 4 for Rave discussion*). According to Ricaurte (1995), MDMA causes an abnormal regeneration, or rewiring of the nerve cells that release serotonin.

Figure 3.5 : The Fischer et al (1995) study found that MDMA damages serotonin producing neurons in the brains of non-human primates. The illustration on the left shows a normal neuron. The shaded area in the middle illustration shows the axon terminals of the neuron that are damaged by MDMA. The illustration on the right shows how 12-18 months after being damaged by MDMA, serotonin producing nerve fibres have regrown excessively in some areas and not at all in others (Mathias 1996:01).



Fischer et al (1995:5483) noted that the “aberrant serotonergic brain reinnervation” had no known functional consequences, but that “if 5-HT (serotonin) function declines with age, MDMA exposed individuals could be at increased risk for developing age-related cognitive impairment.” The results are further evidence that people using high doses of MDMA may be putting themselves at significant risk for brain injury.

Researchers are now trying to determine why the nerve cells grow back normally, abnormally or not at all and whether the damaged nerve tissue disrupts mood, memory and other functions associated with serotonin. Scientists are also trying to clarify serotonin’s role in the brain and its possible involvement in some mental disorders such as depression and anxiety. (Cramer 1995:01).

3.9.1. Ricaurte’s research

Ricaurte’s studies on laboratory animals show that MDMA is a very potent toxin toward brain serotonin (5-HT) producing nerve cells. According to Ricaurte (1997:01), the neurotoxic effect of MDMA is a particularly unique and selective effect. “It is an effect that were it not for the serendipity of the research laboratory, we probably to this day would not have uncovered, since the brain consists of literally hundreds of thousands of different types of nerve cells and MDMA only damages one type of nerve cell- the serotonin producing nerve cell.” It is to be noted that the way nerve cells are identified is by the chemical messenger they use to communicate with other nerve cells. Serotonin nerve cells communicate with their neighbours by releasing serotonin. Of the thousands of different types of nerve cells in the brain, MDMA only damages those that use serotonin as their chemical messenger (Ricaurte 1997:01).

Serotonin nerve cells originate in the base of the brain or the brain stem, and project to practically every area of the central nervous system, including the forebrain and spinal cord. Consequently, serotonin nerve cells provide a very scattered, yet intricate innervation of the brain. This is true, not only in animals but in humans (Ricaurte 1997:02). With regard to the function of brain serotonin, Ricaurte (1997:02) maintains that it is fair to say that no one quite knows what the role of serotonin nerve cells is in the brain. However, there is both pre clinical as well as clinical evidence to suggest that serotonin is important in impulse control, mood regulation, memory, cognition, sleep, appetite, the perception of pain as well as

neuroendocrine functions. In fact, one of the reasons why so many neuroscientists are interested in MDMA is that it can be used to selectively destroy serotonin nerve cells in the brain. Such lesioning studies have the potential to provide valuable new information regarding the function of serotonin nerve cells in the brain (Ricaurte 1997:02).

In short, what MDMA does is destroy serotonin nerve endings in the brain, thereby making it impossible for the serotonin nerve cells to communicate with neighbouring cells the way they normally would (Ricaurte 1997:02). In the research laboratory, Ricaurte discovered the neurotoxic potential of MDMA by treating animals with MDMA, then assessing the condition of brain serotonin neurons (both chemically and anatomically) two weeks later. These studies showed that MDMA produced marked reductions in a number of markers unique to serotonin nerve cells. Specifically, these studies revealed a loss of serotonin (5-HT), 5-hydroxyindoleacetic acid (5-HIAA, a breakdown product of serotonin) and serotonin transporters. In addition, there was a loss of tryptophan hydroxylase (TPH), an enzyme found only in serotonin nerve cells. Thus, a number of chemical markers unique to serotonin neurons were found to be missing in the brain cells treated with MDMA (Ricaurte 1997:02).

Anatomic studies of MDMA neurotoxicity in primates (squirrel monkeys) confirmed these findings, particularly when compared to serotonin nerve fibres in the cerebral cortex of a normal monkey. In the latter, fibres appear as thin, yellowish brown strands forming a very elaborate, dense plexus. If an animal is given MDMA and the brain thereof is examined several weeks or months later, a marked reduction in the density of serotonin-containing nerve fibres is found. The long term effect of MDMA is not limited to the cerebral cortex but also involves most other regions of the central nervous system - including the striatum (the brain region thought to play an important role in movement) and the hippocampus (thought to be very important in memory). These findings have been observed in a variety of experimental animals, including rats, guinea pigs, squirrel monkeys, cynomolgus monkeys, rhesus monkeys and baboons. Whether MDMA produces similar effects in humans is not yet known (Ricaurte 1997:02).

It is important to stress that the results discussed thus far are from animal studies. In such studies it is especially important to consider the dose of MDMA that is used, the route by which the drug is given, and the frequency with which the drug is administered.

3.9.2. *An integrated hypothesis for the serotonergic axonal loss induced by MDMA*

Administration of MDMA to various experimental animals has been shown in various laboratories to induce selective damage to serotonergic axons and axon terminals. Sprague et al (1998:427) examine the current available evidence supporting the development of serotonin (5-HT) neurotoxicity in animals and humans. There is a plethora of hypotheses that attempt to explain the mechanisms involved in the development of this serotonergic neurotoxicity. Sprague et al (1998:427) propose an integrated hypothesis incorporating most of the speculated neurotransmitters theorized to be involved in the process. This hypothesis states that MDMA induces the following sequence of events resulting in serotonergic neurotoxicity:

1. MDMA induces an acute release of serotonin (5-HT) and dopamine (DA).
 2. This acute release is followed by depletion of intraneuronal 5-HT stores due to inhibition of tryptophan hydroxylase.
 3. The initially released 5-HT activates post synaptic 5-HT_{2a} and 5-HT_{2c} receptors located on GABA (gamma-aminobutyric acid) interneurons resulting in a decrease in GABA transmission and increased DA release and synthesis.
 4. The excessive DA released then may be transported into the depleted 5-HT terminal.
 5. The DA is then deaminated* by monoamine oxidase B (MAO-B) located within the 5-HT terminal.
- (* deamination is the process through which enzymes strip amino or protein groups off biomolecules)

Sprague et al (1998:427) maintain that this results in free-radical formation and the selective degeneration of the serotonergic axons and axon terminals. There is no clear evidence that human users of the drug are suffering a similar neurotoxicity (Sprague et al 1998:427). A reason for this would be because the exact same research in which the independent variables are under the researcher's control cannot be done with humans. In the case with humans the researcher is left with ex post facto research. Nevertheless, data are presented suggesting that there remains cause for concern.

3.9.3. IMPLICATIONS OF ANIMAL STUDIES FOR HUMAN USE

To evaluate what implications the Fischer et al (1995) study has for humans using MDMA therapeutically and recreationally, the following questions must be addressed (Doblin 1995:03):

- 1). How does the amount of MDMA administered to the animals relate to human use patterns?
- 2). What are the consequences of MDMA caused serotonin reductions in animals?
- 3). What evidence is there that MDMA causes serotonin reductions in humans?
- 4). If there are MDMA caused serotonin reductions in humans, what are the consequences?

3.9.3.1. Animal versus human doses

Doblin (1995:03) explains that the Fischer et al (1995) study was designed to determine whether there was long term restoration of normal levels of serotonin in those brain regions in which serotonin levels were previously reduced as a result of exposure to very large amounts of MDMA, and to investigate whether the regrowth of serotonin nerve terminals (reinnervation) restored the original brain structures in the rats and primates in this study. It was therefore necessary to cause large initial reductions in serotonin levels in multiple brain regions so that regrowth would have an opportunity to occur.

Doblin (1995:03) maintains that the study was not designed to evaluate the effect of the typical human dose of MDMA, which is about 1.7 milligrams of MDMA for each kilogram of body weight (mg/kg) taken orally. Typical human doses do not cause neurotoxicity in primates. According to Doblin (1995:03), Ricaurte (1988:166) has previously determined in primates that 2.5 mg/kg of MDMA given orally every two weeks for four months caused no significant reductions in serotonin levels. Ricaurte did find that significant reductions in serotonin levels in primates first occurred with a single oral dose of 5 mg/kg, an amount of MDMA that some recreational users do self administer (Doblin 1995:03). This dose produced no reductions in most primate brain regions tested two weeks after administration, but there was a 21% reduction in serotonin in the thalamus and a 16% reduction in the hypothalamus. Thus, the "no effect" level in primates for serotonin reductions is somewhere between an oral dose of 2.5 mg/kg and 5.0 mg/kg. Whether there is a direct link between these initial

reductions in serotonin levels and structural damage (neurotoxicity) has been questioned. Additionally, no associated functional or behavioural consequences have been noted either from these minor and localized reductions or from the larger reductions caused by the higher doses administered to the primates in this experiment (Doblin 1995:03).

In order to cause substantial serotonin reductions in multiple primate brain regions, it was necessary to administer a subcutaneous injection of 5 mg/kg twice daily, four days in a row, for a total of eight injections. According to Doblin (1995:04), the relevance of the data from this study to the human therapeutic or recreational use of MDMA is not clear. Virtually all human use of MDMA involves oral administration, not injection. Furthermore, it is almost unheard of for someone to use MDMA for four days in a row because tolerance to the desired effects develops that cannot be overcome by increasing the amount consumed, distinguishing MDMA from drugs such as cocaine or heroin.

The 5 mg/kg dose of MDMA injected in the primates is almost 3 times larger than the typical human dose of 1.7 mg/kg. Ricaurte (1988:166) has previously shown that subcutaneous injection of MDMA is roughly twice as toxic as oral administration. Doblin (1995:04) therefore argues that each injection received by the primate is equivalent to slightly less than 6 times the typical oral human dose. Since there were 8 injections, each primate received the rough equivalent of 45 times the amount of MDMA that a human would self administer in a typical MDMA session.

This is a very rough estimate since it multiplies dose, frequency and route of administration effects, even though there may not be a linear relationship between these factors and serotonin reductions. Moreover, the typical human dose varies from person to person. The smaller figure of 25 times the typical dose is used by O'Callaghan (1993 in Doblin 1995:04) to estimate the relationship between the doses given to the primates in this study and the typical human dose.

Data from the Fischer et al (1995) study can be used to develop hypotheses about the effects of MDMA in humans, but no clear conclusions can be drawn because there are dramatic species dependent differences in response to the administration of drugs. For example, rats respond differently to MDMA than mice in some studies. In this study, the rats responded

differently than the primates in that most rats but only some primates re-established normal serotonin levels. Primate data is most useful in estimating the effect of a drug in humans, but even primate data need to be confirmed by human studies (Doblin 1995:04). Neither the relative safety nor risk of MDMA can be determined conclusively without human studies.

3.9.3.2. *Consequences of serotonin reductions in animals*

The long term functional or behavioural consequences in animals who have been administered large amounts of MDMA is still unknown. No obvious impairments have been noted (Doblin 1995:05). According to Fischer et al (1995:5484), "Hyper innervation of the hypothalamus may lead to neuroendocrine abnormalities, but this has yet to be documented. Hyper innervation of other limbic structures (for example, the amygdala) might be anticipated to produce changes in emotion, motivation, learning or memory, but again, few such changes have been documented."

3.9.4. HUMAN STUDIES

In human beings it is extremely difficult to assess the status of brain serotonin nerve cells. At present, there are only two ways in which the status of serotonin neurons can be studied in the living human being: (1) studies of 5- hydroxyindoleacetic acid (5-HIAA) in the cerebrospinal fluid (CSF) and (2) Positron Emission Tomographic (PET) studies of serotonin transporters (Ricaurte 1997:03).

3.9.4.1. *STUDIES OF 5-HYDROXYINDOLEACETIC ACID (5-HIAA) IN THE CEREBRO- SPINAL FLUID (CSF)*

CSF studies involve measuring 5- hydroxyindoleacetic acid (5-HIAA), the breakdown product of serotonin, in spinal fluid. CSF is simply the fluid that bathes the brain and the spinal cord. Once serotonin produced by nerve cells has been released, it is metabolised (or broken down) into 5-HIAA, which accumulates in the spinal fluid. Spinal fluid is easily obtained in living human beings by doing a lumbar puncture. Therefore, to determine if 5-HIAA in the CSF could serve as a marker of MDMA neurotoxicity Ricaurte et al (1997:03) first carried out a series of studies in monkeys. When 5-HIAA in the spinal fluid of the monkeys given MDMA was measured, it was found that if that monkey had a 70-90% reduction of serotonin and 5-HIAA in the brain, that same animal had about a 50-60% loss of 5-HIAA in the spinal fluid. According to Ricaurte, two important points emerge from these studies. One is that 5-HIAA

can be used as an indirect marker for MDMA- induced serotonin neurotoxicity in primates. The other is that the degree of loss or depletion of 5-HIAA in the spinal fluid tends to underestimate the degree of loss of 5-HIAA in the brain (Ricaurte et al 1997:03).

With this information at hand, Ricaurte and his colleagues conducted a study in a group of people who had used MDMA extensively in the past. On average, these individuals reported using MDMA about 95 times over a period of five years. The group of individuals that were investigated had used MDMA four times a month roughly every week. Typically, they reported taking a dose of 170mg (an estimated dose), which translates to one or two tablets every time they used the drug. Individuals were also asked when the last time they had taken the drug was. On average, the group investigated had stopped using MDMA about four months previously. The MDMA group was compared to a control group that was reasonably well matched for size (there were 28 subjects in the control group and 30 in the MDMA group), age, height, weight and level of education. The number of males and females in the two groups was also comparable (Ricaurte 1997:04).

What was found in the spinal fluid of these individuals was reminiscent of what was found in the spinal fluid of the MDMA tested monkeys. That is, there was a reduction in the amount of 5-HIAA in the CSF of the MDMA group. In the control group, the CSF 5-HIAA concentration was about 15ng/ml (that is nanograms per millilitre), whereas in the MDMA group it was reduced approximately to 10ng/ml (Ricaurte 1997:04) that is, the MDMA users had roughly 32% less serotonin metabolite in their spinal fluid on average than the group of controls (Doblin 1995:03). This was a statistically significant change. Markers for dopamine and norepinephrine or noradrenaline were not affected. It should be stressed that this data does not establish definite evidence of serotonin neurotoxicity in MDMA exposed individuals. CSF 5-HIAA is only an indirect chemical measure of the serotonin nerve cells in the brain. Additional studies are needed to further assess the neurotoxic potential of MDMA in humans (Ricaurte 1997:04). This far, CSF data suggests that MDMA may produce neurotoxic effects in humans.

3.9.4.2. EVIDENCE FOR SEROTONIN REDUCTIONS IN HUMANS

There is no conclusive evidence demonstrating that MDMA causes serotonin reductions in humans. Studies using spinal taps and or brain scans to evaluate people before and after

administration of MDMA will be needed to determine definitively whether MDMA causes serotonin reductions in humans.

The best indirect evidence for MDMA neurotoxicity comes from the previously discussed study by McCann and Ricaurte (1994:135) which showed that a group of MDMA users (average exposure of 95 times) had roughly 32% less serotonin metabolite in their spinal fluid on average than a group of controls. Doblin (1995:04) maintains in order to put this finding into context, it is important to note that the normal range of serotonin metabolites in spinal fluid is quite large. Some people naturally have twice as much or more than others. A difference of 32% between groups, although statistically significant, is a relatively small shift within the normal range of serotonin metabolite levels.

According to Doblin (1995:04), whether the 32% difference can be attributed to MDMA use is uncertain, primarily because the serotonin metabolite levels of the MDMA users were not measured before they began to use MDMA. Doblin points out that this study used a matched control group design instead of pre- and post- measures on the same subjects, therefore the difference in serotonin levels could be due to uncontrolled factors resulting from an imprecise matching process. For example, some personality factors such as risk taking behaviour (that is illegal drug use) have been linked to lower serotonin metabolite levels. In addition, he notes that the volunteers in this study had extensive exposure to other drugs as well as MDMA, while the control group was relatively drug naive. Furthermore, MDMA sold illegally is often impure. Serotonin reductions, if they occurred as a result of drug use, could be due to impurities and not to MDMA itself (Doblin 1995:04).

Anecdotal evidence raises the question of whether a long-term neurochemical process is at work. Some MDMA users report that the quality of the MDMA experience eventually begins to decline as the number of MDMA experiences increases. While this may be due to a long term neurochemical process, it could also be due to the loss of novelty of the experience or some kind of learning-based tolerance. According to Doblin (1995:04), whether such changes are harmful or beneficial is an open question. This frequent loss of quality of the experience over time serves as a kind of built in antidote to long term compulsive use, as does the increase in the ratio of unwanted side effects to desired effects that accompanies the attempt to take increasingly larger doses.

3.9.4.3. *CONSEQUENCES OF SEROTONIN REDUCTIONS IN HUMANS*

While McCann and Ricaurte (1994) found lower serotonin metabolite levels in MDMA users compared to controls, no harmful functional or behavioural differences between the subjects in the MDMA and control groups were found. In fact, the MDMA users exhibited less hostile and impulsive personality traits and increased harm avoidance, constraint and control than the members of the control group (Doblin 1995:05). This finding is especially surprising since it runs counter to previous research that has associated low levels of serotonin with increased violent and impulsive behaviour. Perhaps this finding is due to MDMA's psychological effect of empathy rather than any long-term change in serotonin (Doblin 1995:05).

[1] *Sleep EEG Data*

A study by Allen, McCann and Ricaurte (1994:560) examined the sleep electroencephalograms (EEG) of human users because of the function of serotonin in sleep. MDMA was found not to cause gross abnormalities in the quality of sleep in human users, suggesting that the systems responsible for sleep were intact. MDMA also did not change rapid eye movement (REM) or stage 3 and 4 slow wave sleep (SWS) periods. According to Granquist (1995:03), this is not what would be expected from experience with chemical or anatomical lesioning of the serotonergic systems in animals.

Sleep EEG data from this study indicated that the MDMA group averaged 19 minutes less total sleep per night than members of the control group. MDMA users had about 37 minutes less of Stage 2 non-REM sleep, generally considered to be of lesser importance than other stages of sleep in terms of restorative function. MDMA users actually spent about 18 minutes more than controls in the stages of sleep considered essential for physical and biological restoration, Stages 3 and 4 non-REM sleep, and REM sleep (Doblin 1995:04).

The fact that MDMA does not reduce REM and SWS, while reducing the lighter stage 2 sleep, may indicate that MDMA users experience better quality sleep. REM and SWS are considered important states in sleep (being linked to memory and psychiatric health), while stage 1 and stage 2 sleep are not generally regarded as being important (Granquist 1995:03). The sleep patterns of the MDMA users could perhaps be considered more efficient and more restorative than those of the control group because they went more quickly into deep sleep.

At present there is no evidence of harmful neurotoxic effects in the current population of MDMA- experienced people. However, Fischer et al (1995: 5482) speculate that there may be sufficient neural reserve to forestall problems under usual circumstances, but “if 5-HT (serotonin) function declines with age, MDMA exposed individuals could be at increased risk for developing age-related cognitive impairment.” Only time will determine if this delayed damage theory is accurate. Doblin (1995:05) has his doubts, in part because 5-HT may not decline with age. More important to Doblin is that there are many MDMA users in their 60’s and 70’s who have taken MDMA numerous times, seemingly without developing age-related cognitive impairment at a different rate than non-MDMA users. Doblin (1995:05) believes if there is such an age related cognitive impairment, it is subtle and has yet to be reported.

[2] *Tentative Conclusion*

As with any substance, some people are likely to be particularly sensitive to relatively small amounts of MDMA. Other people take unusually large amounts, especially in recreational contexts. It would therefore not be surprising if some people took enough MDMA to cause long-term reductions in their levels of serotonin in some brain regions (Doblin 1995:05). Over the last twenty years, a myriad of people have tried MDMA. This use of MDMA, although not conducted in the context of a scientifically controlled experiment, does provide an opening for a very large epidemiological study. Similarly, countless people have tried a prescription drug called fenfluramine, a diet aid prescribed for daily use for months or years at a time that causes the same kind of neurotoxicity in animals as does MDMA. According to Schechter (in Doblin 1995:05) the absence of a single confirmed case of functional or behavioural consequences related to serotonin neurotoxicity as a result of the use of fenfluramine or MDMA does not mean that these drugs are without neurotoxic consequences. Appropriate epidemiological studies have not yet been conducted. Nevertheless, Doblin (1995:06) affirms that the lack of evidence of neurotoxic damage after such an enormous population of people has been exposed to these drugs, certainly suggests that if any neurotoxicity related problems have resulted, they are slight and rare.

Doblin (1995:06) remains of the opinion that the risk of MDMA neurotoxicity is of no practical significance when typical or even somewhat larger doses of MDMA are used on an occasional basis in therapeutic or recreational contexts by people with normal brain function. He maintains that people who have used MDMA hundreds of times, seem unharmed and even

helped by their use. Consequently Doblin (1995:06) believes that Ricaurte is being conservative when he states that “people could probably take normal amounts of MDMA three or four times a year without noticing any neuropsychiatric problems.”

While there is evidence that the neurotoxicity of MDMA can be blocked by the co-administration of fluoxetine (Prozac) or other selective-serotonin reuptake inhibitors (SSRI's), and that such drugs do not alter the MDMA experience in some people, such protective measures do not seem necessary in normal use (Doblin 1995:06). Such measures might possibly be worth the trouble when exposure approaches seven to eight doses a night, a level which Ricaurte (in Doblin 1995:06) stated “could be inviting problems.”

3.9.4.4. *Regarding Prozac*

Fluoxetine (Prozac) and other SSRI's have been shown to prevent the reduction of TPH (tryptophan hydroxylase) activity caused by MDMA. Should the reductions in TPH activity caused by MDMA become of concern, there may be a role for SSRI's in preventing or reversing these effects (Granquist 1995:04). According to McCann and Ricaurte (1993:215) Prozac administered together with MDMA may prevent “burnout” in human users. Prozac may also be useful in treating those users who experience adverse psychiatric side effects, possibly making up for an inability on the part of the users neurochemistry to handle temporary alterations in brain 5-HT function (Granquist 1995:04).

As previously mentioned (*in section 3.8.*), if someone were seriously concerned about neutralizing the possibility of serotonin changes, animal research has shown that combining the prescription drug Prozac with MDMA prevents neurotoxicity, even when Prozac is taken up to six hours after the MDMA. This works because Prozac binds to the same serotonin re-uptake sites which can be damaged by MDMA metabolites (though only when MDMA is administered at doses higher than the standard therapeutic or non-medical amount). The presence of Prozac at the re-uptake sites prevents the neurotoxic MDMA metabolites from binding, eliminating its potential effect on the re-uptake sites (Doblin 1994:01).

3.9.4.5. *MDMA itself is not neurotoxic*

Nichols (1990:01) proposes that it is both the dopamine neurotransmitter (released by the MDMA) and the MDMA metabolites that may be neurotoxic, not the MDMA itself. Several

hours after Prozac and MDMA are administered, the brain has broken MDMA down into its metabolites and released extra dopamine. These compounds, which usually would be absorbed by the serotonin nerve terminal re-uptake sites, are blocked from doing so by Prozac molecules which have filled the re-uptake sites. Neurotoxicity is prevented and the dopamine and MDMA metabolites are eventually reabsorbed or broken down into their harmless components, without having caused any damage.

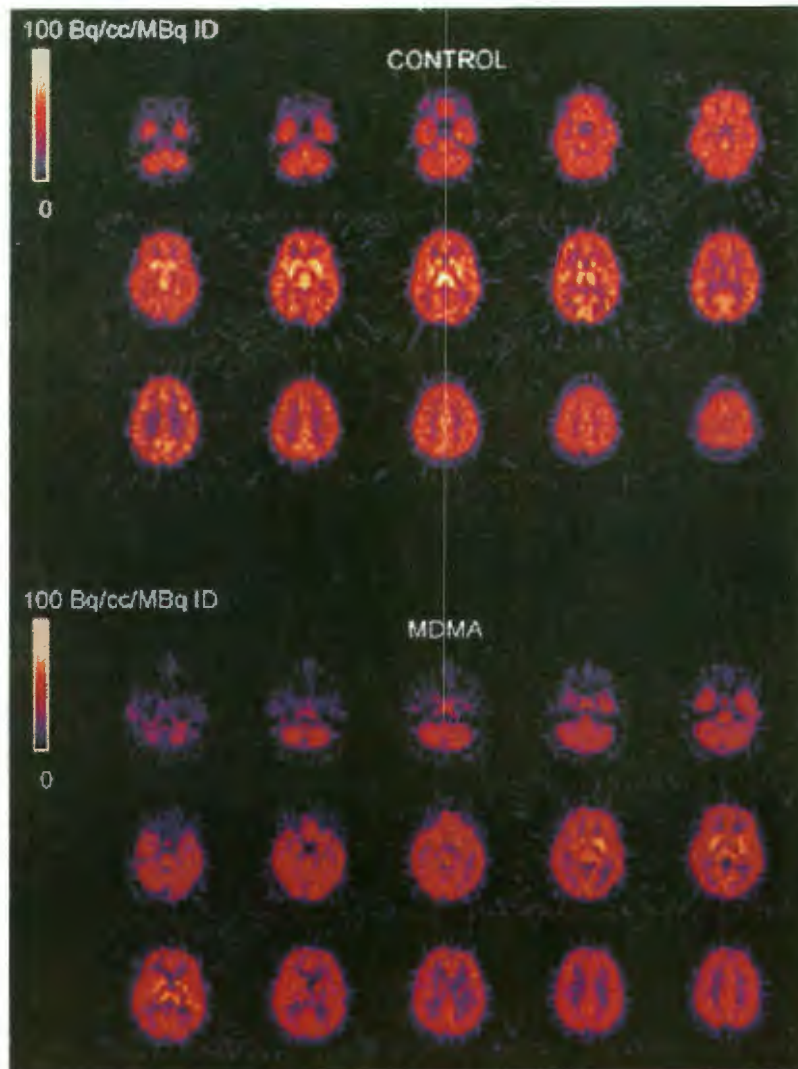
Nonetheless, it is crucial that research continues on the exact mechanism of MDMA induced toxicity and also research into the possible beneficial therapeutic uses of MDMA, so that the risks and benefits of MDMA can be accurately balanced.

3.9.4.6. *POSITRON EMISSION TOMOGRAPHY (PET) SCANS*

Progress in neuroimaging techniques such as positron emission tomography (PET), has made it possible to see and evaluate the state of chemically defined groups of neurons in the living human brain. For example, the development of carbon-11 labelled McN-5652, a radioligand that selectively labels the serotonin (5-HT) transporter, has made it possible to directly and quantitatively assess the status of brain 5-HT neurons in living human beings (McCann et al 1998:02). The specific binding of [¹¹C]McN-5652 matches the known distribution of 5-HT transporter sites in the human brain and binding is completely blocked by pretreatment with a selective 5-HT reuptake inhibitor. The 5-HT transporter is a structural element of the 5-HT neuron that is considerably reduced in animals given neurotoxic doses of MDMA and related drugs (McCann et al 1998:02).

Using positron emission tomography (PET) with the radioligand carbon-11-labelled McN-5652, McCann et al (1998:03) have shown that recreational MDMA use can lead to large, dose related decreases in the brain 5-HT transporter, a structural element of brain 5-HT neurons. Taken in combination with results of previous studies showing selective decreases in concentrations of cerebrospinal fluid 5-hydroxyindoleacetic acid (5-HIAA) in MDMA users, and similar findings in MDMA treated animals with documented neurotoxic lesions, these data suggest that human MDMA users are susceptible to MDMA induced brain 5-HT neural injury (McCann et al 1998:07). (*See figure 3.6. showing PET images*).

Figure 3.6 : Axial PET images of one participant each in the control group and MDMA group showing distribution of specific $[^{11}\text{C}]\text{McN-5652}$ binding. PET images were acquired 55-95 minutes after tracer injection (McCann et al 1998:06).



The brain scans of drug users have yielded the first direct evidence that Ecstasy can trigger long lasting changes in the human brain. Positron emission tomography (PET) was used to scan the brains of 15 MDMA users. For comparison, the brains of people who had used drugs such as cocaine, heroin and marijuana but had never taken MDMA were also scanned (Concar 1997:01). A key difference came to light when the researchers injected participants with a radioactive substance, $[^{11}\text{C}]\text{McN-5652}$, designed to “light up” in the presence of healthy serotonin (5-HT) synapses. Radioligand $[^{11}\text{C}]\text{McN-5652}$ binds to a protein that transports serotonin across cell membranes. The control subjects had normal levels of the transporter protein but the MDMA users had deficiencies in all brain regions.

All participants in the MDMA group in the study reported that they had refrained from use of MDMA or other psychoactive drugs for at least three weeks before the study, which suggests that the decreases seen in brain [11C]McN-5652-labelled 5-HT transporter sites were not due to pharmacological effects of MDMA or other drugs (McCann et al 1998:07). The results do not however rule out the possibility that decreased 5-HT transporter binding sites are secondary to pre-existing differences in 5-HT function in MDMA users compared with controls, but since none of the MDMA users had a neuropsychiatric disorder in which 5-HT has been implicated, McCann et al (1998:07) maintain that this possibility is unlikely. Finally, although most of the MDMA users had experimented with other recreational drugs, none was a known 5-HT neurotoxin in human beings and was not likely to account for changes in 5-HT binding (McCann et al 1998:07).

McCann et al's (1998:07) findings do not draw conclusions about reversibility or permanence of MDMA induced changes in brain 5-HT transporters. Although no correlation between the length of abstinence and the extent of decrease in [11C]McN-5652 binding was found, McCann et al believe MDMA induced changes may be reversible. Sample sizes and various other factors could have contributed to the apparent absence of recovery. More MDMA users with varied durations of abstinence and drug exposure histories must be studied to show whether 5-HT terminal structure and function return to normal over time. Studies in non-human primates show that MDMA induced changes in 5-HT terminal markers persist for longer than 1 year after doses of MDMA similar to those used by some human recreational MDMA users (McCann et al 1998:07).

The finding of the study that a selective 5-HT transporter ligand can be used to show the pathophysiological state of 5-HT neurons in living human brains might have broad implications for many neuropsychiatric illnesses, including depression, anxiety and cognitive dysfunction. Quantitative PET imaging studies with [11C]McN-5652 should help to define the role of changes in the 5-HT transporter in the basic pathophysiology of 5-HT linked neuropsychiatric disorders and their response to treatment with selective 5-HT reuptake inhibitors (McCann et al 1998:08).

In short, the data suggests that people who use MDMA as a recreational drug are "unwittingly putting themselves at risk of developing brain 5-HT neural injury," (McCann et al 1998:08).

Additionally, systematic studies of MDMA exposed individuals with highly selective brain 5-HT transporter deficits may give important insights into the functional role of brain serotonin in human behaviour. According to McCann et al (1998:08), the potential functional consequences of MDMA induced brain 5-HT neurotoxic lesions are not yet clear, but may include depression, anxiety, memory disturbance and other neuropsychiatric disorders in which brain serotonin has been implicated.

The following questions regarding recreational Ecstasy use arise:

1. What does all of this mean to Ravers who love their Ecstasy?
2. How do these findings apply to the average recreational users, most of whom are quite moderate in their usage, that is not every weekend?

There are a number of different opinions as to the relevance of the 5-HT neural damage. Doblin (in Ravesafe 1998:01), mentions that “an important point to note is that the subjects were tested for psychiatric disorders, such as anxiety and depression and all were found to be normal. In other words, these reductions in transporter binding relative to the control group existed without any anxiety and depression, as established by the experimenters themselves. This is in line with animal experiments which show that considerable persistent changes do not result in persistent behavioural changes in these animals. They cannot be distinguished from controls. While Ecstasy may cause some brain changes, the evidence for depression and anxiety as a long term time bomb is entirely lacking especially if the control group are other drug users. So far, these changes in the serotonin transporter are without proven effect. The “midweek post Ecstasy dip” is due to an acute fall in serotonin, which is not the same thing at all.”

Parry (in Rave Safe 1998:02) of the Medical Research Council in South Africa, commented that the same could be said for alcohol. Alcohol causes major neurological damage as a result of causing a thiamine (vitamin B12) deficiency, but only in very large doses over a long period of time. While no precise information on the quantity and frequency of Ecstasy use among the participants is available, Parry (1998) attests it can be assumed that participants used at least one tablet per week. According to McCann et al (1998:05), participants in the PET study had generally used MDMA on more than 200 occasions and over a 4 -5 year period.

Parry (in RaveSafe 1998:02) further points out that how serious the effect of a long term (for example, one year) or permanent loss of functioning of 5-HT neurons is not very clear. What McCann et al (1998) say is that it *might* have broad implications for many neuropsychiatric illnesses in which brain 5-HT neurons have been implicated, for example depression, anxiety and cognitive dysfunction. McCann (in Concar 1997:02) maintains that the brain scans provide clear evidence that MDMA can damage serotonin synapses in humans and her message to Ravers is “if you’re going to use MDMA, use it in moderation.” According to Parry (in Rave Safe 1998:02), the bottom line is that Ecstasy use “does affect your brain (structurally) in ways which could be permanent (or at least long lasting) and this may affect you psychologically and in other ways”.

Other researchers however are unconvinced. O’Callaghan (in Concar 1997:02) believes MDMA fails to produce characteristic effects of nerve poisons on brain cells. “We’re not saying this is a safe drug, just that there’s no evidence of structural damage.”

3.9.4.7. *NEUROCHEMICAL EFFECTS*

Granquist (1995:03) asseverates that there is, nevertheless, some cause for concern over neurochemical changes, even if there are no gross structural abnormalities produced by the normal human use of MDMA. The neurochemical changes induced by MDMA would presumably result from a reduction in tryptophan hydroxylase (TPH) activity occurring in otherwise intact 5-HT neurons (Schmidt et al 1987 in Granquist 1995:03). Since there is evidence that 5-HIAA levels are lowered in MDMA users, this should be of concern.

According to McCann et al (1991:303), one possibility might be that disruptions in 5-HT synthesis might produce psychological side effects ranging from the post MDMA burn out, to the psychiatric effects which have been observed in some presumably idiosyncratically sensitive MDMA users. Granquist (1995:03) points out the possibility that reductions in TPH activity in structurally intact 5-HT systems could be psychologically beneficial. The degree to which this effect of MDMA is qualitatively bad or good needs to be determined. Generally, the question must always be raised as to whether the changes induced in the brain by MDMA are toxic or therapeutic. An important consideration is whether the decrease in TPH activity is preventable and reversible (Granquist 1995:03).

Permanent changes in brain function have been found at levels of MDMA known to be neurotoxic in monkeys (Ricaurte et al 1992 in Granquist 1995:03). Granquist (1995:03) argues if TPH levels were found similarly to not recover at lower doses, then an argument could be made that this should be deemed damage. Should studies show that lower levels of MDMA produce permanent reductions in 5-HT and 5-HIAA levels, it is still not completely clear what to interpret. Granquist (1995:04) maintains that a possible objection is that the long-term changes might reflect an MDMA precipitated alteration in the brains of these animals to their environment. The extent to which the changes are permanent, regardless of external variables, would have to be examined. Likewise, the possibility that the environment affects reinnervation of destroyed axons at neurotoxic doses should be examined.

3.9.4.8. SUMMARY

Several experimental studies indicate that MDMA damages brain serotonin (5-HT) neurons in animals (including non-human primates) and possibly humans. It has also, however, been pointed out that non-human primates are more sensitive to MDMA than non-primates and therefore humans may be even more sensitive (Granquist 1995:03). These findings raise concern that the growing number of recreational MDMA users may be at risk for incurring brain serotonin neurotoxicity. This concern is emphasised by the fact that some MDMA users take doses that are equivalent to those shown to be neurotoxic in animals, particularly after established principles of inter species dose scaling are considered (Bolla et al 1998:02).

Few functional consequences of MDMA induced brain 5-HT neurotoxicity have been identified, either in animals or humans. At present, it is not clear whether the apparent lack of functional consequences of MDMA induced 5-HT neurotoxicity is secondary to true absence of measurable consequences, or whether it is because of the lack of studies addressing this issue. The lack of sufficiently specific and valid measures of brain 5-HT function may also play a role (Bolla et al 1998:02).

3.9.4.9. MEMORY IMPAIRMENT

According to a study appearing in the December (1998) issue of *Neurology*, heavy use of the drug Ecstasy can lead to persistent problems in remembering what is seen and heard. Researchers maintain that the memory impairment increases with the amount of MDMA taken and lasts at least two weeks after stopping use. These memory problems appear to be related

to the damage Ecstasy does to particular brain cells that use the chemical serotonin for communication.

Director of the National Institute on Drug Abuse (NIDA), Alan Leshner (in Jackson 1998:01) commented that: "These studies sound an alarm to young people and their parents about the serious dangers of this party drug. Not only does Ecstasy cause problems while someone is using the drug, but it damages the brain in ways that can interfere with normal learning and memory that continue weeks after one stops taking it."

Bolla, McCann and Ricaurte (1998:01-2) sought to determine whether individuals with a history of extensive MDMA use showed evidence of memory impairment. Memory function deserves special examination in MDMA exposed individuals for several reasons. First, brain serotonin (5-HT) appears to play a role in mnemonic or memory function. Second, in animals, MDMA severely damages 5-HT axons in the hippocampus and other brain regions implicated in learning and memory (for example, the thalamus). Third, case reports of memory impairment in some MDMA users, and several studies suggest that MDMA users have impaired verbal memory function. Because previous studies have involved subjects who may have recently used MDMA or other centrally acting drugs, it is not entirely clear whether deficits in MDMA users represent neurotoxic effects of MDMA, pharmacological effects of drugs or drug withdrawal (Bolla et al 1998:02).

The purpose of this study by Bolla et al (1998) was to determine whether memory deficits exist in MDMA users who were drug free for at least 2 weeks and if they do, whether memory deficits are dose related. Also, this study examined whether memory deficits in MDMA users correlate with decrements in CSF 5-hydroxyindoleacetic acid (5-HIAA) which serves as a reliable indicator of MDMA induced brain 5-HT neurotoxicity in non-human primates. This study was part of a larger clinical research project assessing the long-term effects of MDMA in humans (Bolla et al 1998:02).

Twenty four abstinent MDMA users and 24 control subjects were compared on several standardized tests of memory, after matching subjects for age, gender, educational level and vocabulary score (a surrogate of verbal intelligence) (Bolla et al 1998:01).

Bolla et al (1998:07) found that abstinent MDMA users have a deficit in visual and verbal memory and that higher average monthly doses of MDMA are associated with greater decrements in memory function. Furthermore, the results indicate that lower levels of CSF 5-HIAA (an indirect measure of central 5-HT function), are associated with poorer memory performance, suggesting that MDMA induced brain 5-HT neurotoxicity may account for memory impairment in MDMA users. Lastly, the results indicate that both baseline intelligence and gender influence the effects of MDMA on memory function. Women were less susceptible than men to MDMA dose-related decreases in memory (Bolla et al 1998:08).

These findings are generally consistent with reports of memory problems in previous studies, although some important differences are evident. In particular, contrary to findings in a previous report by Parrot et al (1998) in which individuals with low MDMA exposure (10 or fewer doses) showed memory deficits, only subjects with high total monthly MDMA dosages were found to have memory deficits in this study. Bolla et al (1998:07) feel the differences between the two studies may be attributed in part to the fact that subjects in their study abstained from psychoactive drugs (including MDMA) for at least two weeks. Thus acute or partial residual drug effects, or drug withdrawal, may have caused the memory disturbances noted in previous studies. Alternatively, subjects in the study by Parrot et al (1998) may have used extremely high doses of MDMA, causing brain 5HT neurotoxicity despite the small number of separate drug exposures. Because some individuals attending Raves report using doses of MDMA that are clearly neurotoxic in non human primates, the latter possibility cannot be excluded (Bolla et al 1998:07).

As previously noted, CSF 5-HIAA concentrations were lower in MDMA users compared with control subjects. According to Bolla et al (1998:08), lowered concentrations of CSF 5-HIAA in human MDMA users are likely to reflect MDMA induced brain 5-HT neurotoxicity since similar reductions have been reported in primates with documented MDMA induced 5-HT injury. Furthermore, the negative correlation between average monthly dose of MDMA used and CSF 5-HIAA concentrations implies that MDMA users' reports of their use are accurate, considering dose related reductions in brain 5-HIAA have been noted in animals. Finally, because decreases in CSF 5-HIAA levels were related with lower performance on specific memory tests, the findings of Bolla et al (1998) support the view that cognitive deficits in

MDMA users may at least be ascribed partially to MDMA induced 5-HT deficits (Bolla et al 1998:08).

The observation that higher exposures to MDMA are associated with memory impairment is consistent with findings in animals, indicating that higher dosages of MDMA produce greater neurotoxic lesions. Significantly, only individuals with more profound decrements in CSF 5-HIAA (presumably reflecting a greater extent of 5-HT injury) displayed obvious difficulties with memory function. These results correspond with a growing body of literature that denotes that large lesions (>80%) of neural systems are often necessary for functional deficits to be apparent (Bolla et al 1998:08).

Results from this study also indicate that individuals with lower intellectual abilities, (that is vocabulary scores), display greater decrements in memory performance with higher doses of MDMA. Similar interactions are seen in individuals exposed to other neurotoxins such as solvents and aluminium. This effect may be explained by the concept of cognitive reserve, which assumes that individuals with higher intellect have a higher threshold for developing neurocognitive effects after brain insult (Bolla et al 1998:08).

Bolla et al (1998:08) maintain that the gender discrepancy regarding the MDMA dose-related decrease in memory function (where women were less susceptible than men), may be related to differences in innate cognitive abilities, bioavailability, hormone profiles, pharmacodynamic responses or differences in baseline memory function. Studies in adults 19-50 years old have found that women tend to have better memory abilities whereas men tend to have better reasoning abilities. Bolla et al's results are consistent with these reports because gender differences were also seen in control subjects, with women performing better than men. Differences between men and women in neuro-cognitive abilities may be related to differences in cerebral metabolism, hemispheric specialization, or hormonal influences (Bolla et al 1998:08).

A few possible limitations of this study should be pointed out. As with all retrospective studies, there is a possibility that pre-existing differences between MDMA users and nonusers underlie differences in memory function and 5-HIAA. Thus, people with low CSF 5-HIAA may be predisposed to use MDMA and to have memory problems. However, Bolla et al

(1998:08) assert that the dose related decreases in both CSF 5-HIAA (similar to those that have been found in non human primates) and memory function make this unlikely. Moreover, because several subjects in the control group also used recreational drugs (although not MDMA), a tendency to use drugs cannot completely explain the biological and behavioural differences found in MDMA users in this study (Bolla et al 1998:08).

Nevertheless, no single line of evidence can be taken as conclusive proof that MDMA is neurotoxic in humans. Additional studies are needed to depict better the neurotoxic potential of MDMA in humans and its functional consequences.

3.10. ETHICAL DILEMMA

In closing, an important issue which needs to be examined is the difficulty of reaching conclusions from data produced from retrospective research on humans, rather than prospective research. This is the difference between studying the brains of humans who say they have taken Ecstasy in the past (whether recently or not) and studying the brains of humans before and after actually giving them MDMA. In the former case there are clear methodological difficulties. For example, differences in the brains of MDMA users, compared to a non-using control group, could be pre-existing. Another problem is a lack of certainty about what the users have actually taken (Novartis Foundation Press Conference 1998:02).

However, despite the apparent drawbacks of retrospective research, prospective research is not being undertaken because of perceived ethical difficulties. Ricaurte (Novartis Foundation Press Conference 1998:02) mentioned two problems he saw with this kind of research on humans. Firstly, he believed it would be unethical to ask subjects to participate in a study, the purpose of which would be to “see whether or not we can destroy serotonin nerve terminals in your brain”. Be that as it may, people are taking Ecstasy on dance floors all over the world every weekend and there is unlikely to be a shortage of people willing to volunteer for MDMA research. Indeed, not to do this kind of research might even be seen as being unethical.

Ricaurte’s second problem centred around what he saw as the lack of medical necessity to test MDMA in this way as there is still no documented evidence that MDMA has any medical use. Grob (1998) who is considering the possible uses of MDMA within therapy, particularly for treating post-traumatic stress disorder, pointed out the catch 22 nature of this argument. He

maintains that “there is no documented evidence because putative medical application has not been put to rigorous testing. There have been no authorised, sound, methodological investigations, in large part because of the concerns Ricaurte is raising about neurotoxic potential,” (Novartis Foundation Press Conference 1998:03). Hence, there is no evidence because the studies have not been done but the studies cannot be done until there is some evidence to support them.

3.11. CONCLUSION

While the popularity of MDMA seems to be on the increase, especially amongst young people in the “Rave” party setting, animal studies have shown that MDMA in somewhat high doses, can cause prolonged neural damage to the brain’s pathways. The question at the present time is whether regular use of MDMA has the same effect in humans. Concern is expressed that the dosages taken by youth in some cases far exceed the normal “advisable” human dosage of 1.7mg/kg. The observation that higher exposures to MDMA are associated with cognitive deficits is obviously worrying given the widespread use of MDMA amongst the youth as these effects could cause problems for student’s taking exams.

MDMA is no exception to the rule that every drug has potentially serious side effects. Studies indicate that a small number of people who have taken MDMA over the last thirty years have suffered negative consequences. Some people may be predisposed to react adversely to typical amounts of MDMA while heavy users may be placing themselves at particular risk. MDMA increases blood pressure, posing a risk to people with pre-existing heart conditions. MDMA can also elevate body temperature which, in combination with hot nightclubs, prolonged dancing and insufficient fluid intake has been linked to death from heat exhaustion. MDMA’s psychological effects have been occasionally associated with acute anxiety, panic and depression. Several cases of longer lasting neuropsychiatric effects have been identified (Doblin 1995:01).

The strands of evidence pulled together suggest that MDMA may indeed be neurotoxic for humans. What is not known yet is how long-term those problems are. There is concern that the reduction of the level of serotonin may be a permanent reduction and that it may put an individual at higher risk for developing the wide array of neuropsychiatric disturbances in which serotonin neurons have been implicated, such as depression, mood swings, impulse

control problems, aggressive tendencies, sleep disturbances and anxiety disorders. Although research studies do not prove beyond doubt that these are likely outcomes, they are a warning to Ecstasy users. (*See figure 3.6.*)

The British Parliamentary Office of Science and Technology (POST) report's conclusion (in McFadyean 1997:72) on all the research is one that Ecstasy users and their parents need to absorb:

"The studies... strengthen concerns that Ecstasy use can affect the brain some time after the immediate effects of the drug have worn off. The real fear is that Ecstasy may cause long-term brain permanent effects on the human brain in much the same way as observed in animal experiments. This remains unproven but many experts see such long term effects as a bigger potential threat to public health than the much more publicised short term risks."

The challenge for parents, drug workers and others in contact with young people using Ecstasy is to get it across to them that in later years they may be susceptible to neuropsychiatric disturbances as a result of Ecstasy use. How effective this message will be depends on how one gets through to an individual. A good degree of caution must be followed with recreational use of Ecstasy until further studies can determine whether this substance is indeed dangerous in humans.

In the following chapter, the ethos and philosophy behind Rave culture is explored.

Figure 3.7: A warning to Ecstasy users. Source: Vibe, March (1997:42).

ecstasy

know the score

Take E now and you might feel fine. But if you take E you're a human guinea-pig because no-one knows what the long term effects are. Unlike other pills you can buy, E hasn't been medically tested.

What we do know about E is that some people have suffered from strokes, depression, mental illness and even fallen into comas.

There's also some indication that taking E might lead to brain damage. Nobody can be 100% sure, but it's some gamble for a night out.

There's some confusion about how much water to drink on E. When dancing, you need to sip about a pint of non-alcoholic liquid an hour to replace lost fluids. Also remember to wear loose, light clothes and just chill out regularly.

You sweat a lot when you dance, it's not just the water you've got to replace, there's sodium too. Fruit juice or an energy drink should do the job. It works for marathon runners.



CHAPTER FOUR
RAVES AND THEIR CULTURE
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4.1 INTRODUCTION

In South Africa's youth culture resides a phenomenon known as Rave - a "heady" mixture of energetic "techno" music, high-tech visual effects, flamboyant clothing and designer drugs (Goldstruck in Hoy 1998:01). Driven by the idealism of PLUR (peace, love, unity and respect), ravers seek to typify themselves as amicable, helpful, caring individuals, looking out for each other to ensure a good time and create a positive ambiance. Sometimes recreational drugs are used to enhance the experiences had by those that attend, giving new meanings to the experiences they have had. The music, generally believed to be the most important aspect of Raves, is driving, it is emotional, but most of all, it provokes dance. (*Listen to the attached CD*). In the harmony of the music, ravers "groove" to the incessant beats, thriving on the energy of the tracks played by the DJ at the loudest of levels. Dancing hard into the night, ravers tire into the early morning, spent from their energetic rituals (<http://1998:01>).

In this chapter, the main objective is to look at what Raves are, as well as the underlying philosophy of a raver. What is causing young people to gather in their masses to empty warehouses or night clubs and listen to music from 10:00pm until 8:00am? Who are the ravers? Is the Rave movement new or is it some form of "archaic revival"?

4.2 WHAT IS A RAVE?

Raving is a highly subjective experience. While it may be collective in nature, it is nevertheless subjective in perception (Stiens 1997:01). One person's best Rave may be another person's worst. Thus any attempt to analyse Rave culture must recognise the highly personal factor of the experience. This researcher's endeavour to analyse Rave culture will commence with a series of quotations on the experience.

"Togetherness, friendship, understanding, tolerance, diversity, heart beat, breath, oneness, absolute, dissolving of boundaries, psychedelic, death of ego, selfless, smiles, dance, groove, brothers and sisters, human, love, pain, laugh, cry, rhythm, beat, melody, bass, jump, wave, float, crash, soar, sacred, thankfulness, inspiration, timelessness, eternity, mellow, vibes, white teeth, two feet, chaos, order, cosmos, universal, unending, unbeginning, untamed, wild, freedom, fresh, state of mind, youth, birth, death, age, Earth, sky, organic, alien, evolution, creation, blood flows through us all..." (Raford 1995:01).

“Rave is more than music plus drugs; it’s a matrix of lifestyle, ritualised behaviour and beliefs. To the participant it feels like a religion; from the standpoint of a mainstream observer, it looks more like a sinister cult” (Reynolds 1998:xviii).

“Raves are a place where people can go to be themselves, where everyone is accepted for who they are, where people will give you a smile and a hug even if you don’t know them well, where you can escape reality and live together in harmony with others for a while, where you can dance your ass off all night until you see the sun rise, where you leave having more friends than when you came in, where the music hits you hard and wont stop, where everyone is equal, where you can sit if you want to, dance if you want to, talk if you want to, hug if you want, clap or whistle or just space out or anything...” (LaGassa 1994:01).

“The music builds up and gets you pumped up. I don’t have to do drugs to stay up with that kind of music. People that don’t know what Raves are think that they are about drugs, but that’s not what it is about. Sure, there are people who do drugs here, but there are people who do drugs at rock concerts. It’s about dancing and music and DJ’s, togetherness and having fun” (a raver in Morgan 1997:02).

“At the Rave, I spent an entire twelve hours being cold, lonely and misunderstood by the drug addled, happy faced space kids who were content to boogie down all night long to the monotonous thump, thump, thumping that shook my skull but not my ass... The only way to have fun at a rave is to do massive amounts of drugs which make you happy and able to enjoy the constant mental assault that is techno music and spend the whole night dancing” (Hoffman 1997:01).

“It was better than the best party I’ve ever been to... the culture out on the dance floor wasn’t like any I had encountered before- despite the extraordinary number of thin, attractive women in skimpy outfits, there did not seem to be any guys dancing up behind them and putting hands around their waists, nor did there seem to be anyone hitting on anyone in general... It was very refreshing. People just did their own thing unmolested” (Sewell 1996:01).

“... The bass was rattling the mirrors on the far wall. There were laser beams everywhere. The music shot into the core of my body and I moved... all night long. People I didn't know gave

me water when I was thirsty. People gave me candy and hugs. For one night, I was one with the universe. I was one with my neighbour and I was one with the music” (a raver in Stiens 1997:02).

“There are no bad vibes at a Rave. We just want to dance. There is no right and wrong way to dance... We’re all one form when we dance, we have one common goal - to have as much fun as possible. Fun is to be taken very seriously, life is too short to worry unnecessarily, so we just dance. Take a night off from life and just have fun...” (A raver).

“The rave scene where everyone can’t stand still... where everyone can’t look angry.. where everyone says ‘Oh, I am sorry, excuse me.’ Manners...” (A raver).

“It’s like a modern day rainbow gathering... a place where you can go to see your family. It’s really comfortable... It’s where people go because the others act the same way you act. It’s just our way of expressing peace, love unity and respect” (a raver in Morgan 1997:01).

“What struck me... was the amazing group of people who shared this experience with me- 6000 young, beautiful, high humans, having one hell of a good time together. No fights. No one crying in the corner... Everybody smiling. People would walk by and actually touch each other. Some people were dressed like aliens, some half naked. 6000 brothers and sisters of all races, classes and sexual orientations. Living equality. Beautiful” (a raver in Stiens 1997:03).

“At the end of the day it is just one big, stupid party!!” (Empire in Brown 1998:11).

4.2.1 *The word “Rave”*

The Cassell Compact English dictionary (1998:911), defines the word Rave as follows:

1. (verb) to wander in mind, to be delirious, to talk wildly, incoherently or irrationally.
 2. (verb) to be excited, to go into raptures (about something)
 3. (verb) to act, move or dash furiously, to rage
 4. (informal) to enjoy oneself wildly
-
1. (noun) the act of raving

2. (noun) extreme enthusiasm
3. (noun) a very lively party
4. (informal) an often large-scale party for dancing to fast, non-stop electronic music, typically held in the early hours of the morning in a marquee, disused building or outside

The word raver is defined as:

1. (noun) a person who leads a wild or uninhibited social life
2. (noun) a person who attends Raves
3. (noun) a frenzied or delirious person

In 1988, the word “Rave” was in common diction, but only as a verb, for example “I’m going raving at this warehouse party.” A year later, “Rave” had become a noun, while “raver” for many, was a derogatory stereotype, an insult. Where “raving” had come from Black British dance culture and ultimately from Jamaica, “raver” plugged into a different etymology. According to Reynolds (1998:64) the *Daily Mail* used it to describe the crude antics of traditional jazz fans at the Beaulieu Jazz festival in 1961. A few years later a TV documentary used the word to evoke the hysterical “nymphomania” of teenage girl groupies. There had also been an “All night Rave”- a psychotropic musical show featuring Pink Floyd, at the Roundhouse in October 1966 (Reynolds 1998:65). With its multiple connotations- delirium, madness, frenzied behaviour, extreme enthusiasm and the Black British idea of letting off steam at the weekend - “raving” perfectly described the out of control dancing of the launching of the Rave scene in 1988.

4.2.2 Contemporary definition of Rave

A Rave is a social event, a phenomenon of modern youth culture. In most cases, a Rave is an all night dance party open to the general public, where loud techno music is played and many participants partake of a number of different chemicals, though the latter is far from necessary. The participants experience a sense of community and elevated consciousness through the hearing of music and the responding to music via free and physical motion or dance, a positive change of mood and both spoken and unspoken interaction with other participants (Brown & Behlendorf 1995:03).

According to Brown and Behlendorf (1995:03), it can be said that Raves tend to comprise the following key elements:

- * a venue which may be a warehouse, open field, dance club or other exotic location
- * at least one large, amplified stereo sound system
- * skilled disc jockeys (DJ's) who provide a continuous mix of dance oriented electronic music, usually "techno," "house," or "jungle" music
- * colourful moving lights, lasers and strobes
- * night time hours, usually from 10pm or 11pm until sunrise
- * attendance of at least 50 people (varies widely from region to region around the world; some Raves routinely attract over 10 000)
- * use of recreational drugs among a percentage of the participants (varies widely from Rave to Rave; some Raves are substance free)
- * non-use of alcohol (varies from Rave to Rave)
- * selling of non- alcoholic "smart drinks", T-shirts and DJ mix tapes
- * retro and "little kid" fashions
- * "chill out" areas or rooms featuring ambient music.

Raves are advertised via flyers, posters, word of mouth, Internet mailing lists and web pages. Places where flyers can be found include independent CD or record stores, alternative clothing shops, Internet cafés, dance clubs and other student "hangouts" near universities or technikons. The name of the Rave appears on the flyers however the word Rave is not usually displayed due to negative connotations applied by people unfamiliar with the scene (Brown & Behlendorf 1995:08). Many Rave flyers use pagan and religious symbolism. Enlightenment is a common theme as well as love and kindness (Stiens 1997:12). (*See figure 4.9*). Raves do not only take place in urban areas. They often take place in small towns, rural areas, out in the desert, on rooftops, in parking garages, on the beach, anywhere where people want to dance all night long (Brown & Behlendorf 1995:08).

4.2.3 *The concept of Rave*

The actual concept of Rave is nothing new. Some people claim Raves are a more sophisticated form of a primal culture (Hoy 1998:02). According to Behlendorf (1995:11), "at the base level, raves are very comparable to American Indian religious ceremonies (pow-wows) and also to the concept of Shamanism (navigating consciousness) in Eskimo and Siberian society,

where music is the key towards pulling oneself into a unique, emotional and psychological state... in which one experiences washes of sensations and visions..." Similarly, a large part of the concept of modern Rave parties is employing a combination of audio (music) and visual stimuli (lights and lasers) to "elevate people into an altered state of physical or psychological existence" (Behlendorf 1995:09). (*See section 4.9.1*). Others allege that Raves are simply the re-emergence of the hippies, an Age of Aquarius-style utopian togetherness with a technological feel (Beckerling in Hoy 1998:03).

For many people, a Rave is not simply an all night party but rather a form of lifestyle, ritualized behaviour and beliefs (Reynolds 1998:xviii). Reynolds (1998:xix) argues that dance culture has long been home to two extremely opposed versions of what Rave is all about. On one side, there is the transcendentalist with neo-psychedelic talk of higher planes of consciousness and a widespread merger with humanity and the cosmos. On the other side, Ecstasy and Rave music fit into a happening "rush culture" of adolescent excitement and cheap thrills: playstation video games, skateboarding, bungee jumping and other extreme sports and blockbuster movies whose story lines are merely flimsy frameworks for the display of spectacular special effects (Reynolds 1998:xix-xx).

4.3 *WHY RAVE?*

Although the flowing of emotions and group hugs at a Rave is a large part of the MDMA or Ecstasy experience (which is why ravers use the term "loved-up"), the intimacy is scattered into an overall atmosphere of friendliness: you bond with the group you came with but also with people you have never met (Reynolds 1998:xxv). Behlendorf (1995:10) affirms that "what distinguishes raves is the concept of the shared experience; a feeling of unity often arises and people are open and friendly to one another. There is a loss of that 'pretentious' attitude that is omnipresent in other kinds of clubs and even in life in general. People are celebrated for who they are not what they aren't."

In a world of post modernism where young people are constantly vying for acceptance, belonging and love, Raves are offering what they are looking for. The need for purpose and meaning is important to most adolescents. Raves provide young people with a step towards individualism but without losing the security of society and their peer groups (Hoy 1998:03). Furthermore, Raves are perceived as a loose arena of free ideas where people come out and

are allowed to express themselves, “you’re allowed to be a freak,” (DJ Sense in Morgan 1998:04). (See figure 4.1.).

There are three essential aspects common to every Rave. The following section deals with the physical aspect, namely the music, visual effects, drugs and people. The spiritual and the psychological aspects will subsequently be discussed.

4.4 RAVE MUSIC

Rave music is generally characterised as all music that has a “techno” beat to it, but even this is misleading. It is very difficult to classify Rave music, particularly due to the varied styles and preferences. According to Hilker (in Hoy 1998:04), techno is denoted by its slavish devotion to the beat and the use of rhythm as a hypnotic tool. It is also distinguished by being primarily, and in most cases entirely, created by electronic means. Stiens (1997:08) defines Rave music as all music that is dominated by a bass beat of approximately 115 to 220 beats per minute (BPM), with the most common being about 120 to 160 BPM. Trance, goa trance, house, acid house, techno, ambient, progressive, deep house, hardcore techno, speed garage and jungle are all styles of music associated with the Rave culture. “Chill out” areas at Raves (where ravers rest from dancing) often feature a combination of the above, along with ambient music or even classical music.

Reynolds (1998:xxvi) affirms that all music sounds better on Ecstasy. It is crisper and more distinct, but also instantly overwhelming. Rave music’s emphasis on timbre enhances Ecstasy’s mildly synaesthetic effects (the subjective sensation of a sense other than the sense being stimulated), so that the sounds seem to caress the listener’s skin. “You feel like you are dancing inside the music; sound becomes a fluid medium in which you are immersed” (Reynolds 1998:xxvi). Rave music’s hypnotic beats and continuous sequences also make it perfectly tailored to interact with another characteristic of Ecstasy. Recent research suggests that the drug stimulates the brain’s adrenergic receptors which encourage repetitive behaviour (Reynolds 1998:xxvi). Since Rave music is organized around the absence of crescendo (a gradual increase in the intensity of sound) or narrative progression, it gradually introduces a pleasurable melody that suitably fits the sustained plateau of the MDMA high.



Figure 4.1: Freedom of expression.
Source: Ministry, January (1998:118); Vibe, March (1997:08)



According to Reynolds (1998:xxvi) these Ecstasy enhancing aspects latent in house and techno music were unintended by their original creators and were only discovered accidentally by the first people who mixed the music and the drug. However, over the years Rave music gradually developed into a “science” of enhancing MDMA’s sensations. House and techno music producers have developed a drug determined repertoire of effects and riffs by tweaking (tuning) the frequencies and harmonics of different sounds, making them “leap out of the mix with an eerie three dimensionality or an auditory hallucinatory vividness” (Reynolds 1998:xxvi). (A riff is a short, repeated melodic figure or phrase used as an introduction or accompaniment, usually as background to an instrument solo).

Regardless of Ecstasy’s musical applications, it is the driving and pulsating electronic dance music (supported by a skilled disc jockey), that sets the tone and builds the anticipation at Raves (Morgan 1998:04). Disc jockeys are an integral part of Raves, occupying centre stage and drawing the attention of the ravers as they spin one track into another. In general, the purpose of the music played at Raves is to make people dance, but it is more than that. The music has to “take people to another place”. It has to “calm the conscious mind while at the same time stimulating the sub conscious, as well as the body...” (Brown & Behlendorf 1995:09).

DJs are usually changed every two to four hours. They must be sensitive to the “spirit of the Rave” to know how to “build up” and when to “break down” the emotional tension of the crowd (Fourie 1999:31). The DJ strives to create an environment in which people in the crowd lose their inhibitions, let go and forget about the people around them. “They hoot, holler and put their arms in the air... kind of like in churches... when the vibe reaches that point and people are just so into it,” (DJ Sense in Morgan 1998:04).

Dancing is to an extent, yet another reiteration of the music. Stiens (1997:08-09) compares the music that the DJ spontaneously creates to a text which the dancer interprets through body movements. The beat is the driving force. Whether people are doing highly choreographed dance moves, or whether they are simply thrusting their bodies back and forth, ceases to matter. It is losing oneself to the beat and becoming one with the music by letting the music control your movements. (*See figure 4.2*). (*Listen to the attached CD*).

Figure 4.2: Dancing - the method by which ravers “worship the God of altered consciousness.”
“Let the music control your movements and set you free.”

Source: Mixmag, July (1999:136-137)



4.5 VISUAL EFFECTS

A Rave is just not complete without visual effects, that is the skillful use of lights, lasers and video projections. (See figure 4.3). The atmosphere at a Rave is charged not only by the music but also by the “back to the sixties” and “dawning of the Age of Aquarius” imagery. Extraterrestrial (alien), psychedelic, as well as Eastern religious iconography are a familiar sight. (See figure 4.9 and 4.10) Although not all Raves include imagery, in South Africa most Raves are organised and therefore have as much of Rave culture mixed in them as possible (Hoy 1998:04). “Intelligent” light fixtures, called cyberlights move the lights in patterns and project them through different coloured metal filters which are cut into geometric shapes and crop circles. With the correct filters, cyberlights can create the illusion of textures (Berko 1997:03). Lasers focused onto moving mirrors controlled by a computer, enable an assortment of shapes, designs and logos to be drawn. The video imagery projected on the walls, linking everything from animated cartoons and “trippy” computer graphics to film clips, is speeded up to closely match the beat of the music (Hoy 1998:05).

The music and lights at a Rave tilt the MDMA experience towards the drug’s sensuous and sensational effects. With its mildly pre-hallucinogenic feel, Ecstasy makes colours, sounds, smells, tastes and tactile sensations more vivid. The experience combines clarity and brightness (Reynolds 1998:xxv). The union of Rave music and visual effects procures a synergy that can take a raver into an altered state of awareness. Behlendorf (1995:10) asserts that the hypnotic effect of techno music coupled with the thematic progressions of Rave DJs, can become quite intoxicating, resulting in what could closely be compared to a religious or a mystical experience (see section 4.9.1). The altered state may simply help one forget about who s/he is. But ultimately, it helps one escape the world and all its problems (Hoy 1998:05).

4.6 DRUGS

To decontextualise Ecstasy use in South Africa from its predominant setting within the Rave culture is both unproductive and misleading. It is clear that Ecstasy and Rave culture go hand in hand. There may well be an internal argument over which came first, but to most ravers they are inseparable (Redhead 1993:13). According to Redhead (1993:12) it has been argued that Ecstasy’s relationship with house music and Raves produced alarm and a moral panic in society, especially when a young raver died outside a club. The subject of drugs at Raves is very controversial.



Figure 4.3:
Visual effects.
Lights and lasers.
Photography:
J.Kayton



Some wonder whether the Rave scene would have been more easily accepted by the public had the presence of drugs not been so high while others wonder how Raves could ever come about without them (Behlendorf 1995:11).

In the light of this, consider the following quotations:

“Rave culture as a whole is barely conceivable without drugs, or at least without drug metaphors: by itself, the music *drugs* the listener” (Reynolds 1998:xviii).

“At a Rave, the emotional outpouring and huggy demonstrativeness is a huge part of the MDMA experience... Anyone who has been to a Rave knows the electric thrill of catching a stranger’s eye, making contact through the shared glee of knowing that you’re both buzzing off the same drug-music synergy” (Reynolds 1998:xxv).

“All music sounds better on Ecstasy, crisper and more distinct, but also engulfing in its immediacy. House and techno sound especially fabulous,” (Reynolds 1998:xxv).

“A generation hell bent on hedonism... indulging in casual drug-taking on a scale not seen since their parents did it 20 years before...” (Redhead 1993:13).

There is an indisputable connection between recreational drugs and Raves. There are many reasons for this situation. Brown and Behlendorf (1995:11) maintain that some of these reasons may include but are not limited to the following:

- * the presence of drugs throughout youth culture
- * the sensory and empathetic enhancements drugs offer to the experiences of raving
- * the expectations of some ravers about what they are “supposed” to be doing at Raves
- * the energy provided by drugs to help people stay up all night dancing
- * the desires of some ravers to escape or to return for a night to a carefree, childlike existence
- * the relatively safe, comfortable and stimulating environment provided by Raves
- * the inexperience and immaturity of young adults, out on their own for the first time, who want to indulge in the forbidden fruit, so to speak.

These factors together sometimes create an overwhelming pressure on ravers to indulge in recreational drugs. There are however significant risks that are often ignored by the raving community at large. As discussed in the previous chapter, a small percentage of the population is prone to allergic reactions to Ecstasy (MDMA) and some ravers have died suddenly after taking low dosages of MDMA.

Although drugs have been part of the Rave scene since the beginning, it is possible to go to a Rave and not do drugs (Stiens 1997:10). For every raver who chooses to enhance their experience with drugs, there is a raver who chooses not to (Brown & Behlendorf 1995:12). Regardless, one cannot separate the Rave scene from drug use. Ecstasy became the raver drug of choice. Ecstasy broke down barriers of communication, enhanced pleasure and sensation and made music physically pleasurable. Strangers became people to be loved. Ecstasy broke down egos. It was a perfect fit with the happy family that the Rave scene was trying to create (Stiens 1997:10). For many young ravers, the pleasures of Ecstasy considerably surpassed any potential dangers that the drug may possess; thus amongst many Rave goers Ecstasy became known as the "friendly drug".

Dance music and club life play an increasingly prominent part in the life styles and choices of many of today's youth. MDMA far from being an expensive and short lived fad quickly established itself as a major part of certain drug using circles in South Africa. No one is quite sure just how many people are using Ecstasy regularly in this country, though some put the number who have tried Ecstasy at five hundred thousand (Jonker 1996, South African Police Drug Conference). This should come as no surprise for there is little worthwhile information available regarding Ecstasy, despite a plethora of recent studies of MDMA in the USA. Estimates on usage vary widely. However, researchers now believe that a "significant" number of young people are familiar with what has been generically termed "dance drugs" (Redhead 1993:11).

Newcombe (in Redhead 1993:11) argues that "Every weekend... an estimated 20-30 thousand people go to house music clubs and parties, known as 'Raves'. Several thousand take drugs such as cannabis, Ecstasy, amphetamine and, or LSD." Research carried out in Brighton (United Kingdom), indicated that 62% of those who regularly go to night clubs had stated that they had used drugs recently. The Brighton study concludes that "use of drugs is considered

by many young pleasuredomers as a valid component of their leisure, along with their dress, style, choice of friends, music and clubs." Other drug researchers argue that Ecstasy (MDMA) or to the ravers, just "E", is the raver's cultural choice (Redhead 1993:11).

Ecstasy has also dominated contemporary pop music. References to "E" permeate much of today's music: for example ED 209's *Acid to Ecstasy* (Redhead 1993:11-12) and Happy Monday's album *Pills 'N' Thrills and Bellyaches* (Reynolds 1998:93). Ecstasy is also proving important for some young people. It is increasingly replacing more traditional drugs, such as marijuana and LSD, in becoming their introduction to illegal drug use (Redhead 1993:12). Not surprisingly, therefore, there have been many fears expressed about Ecstasy - fears concerning its chemical make up and its after effects both in the short and the long term.

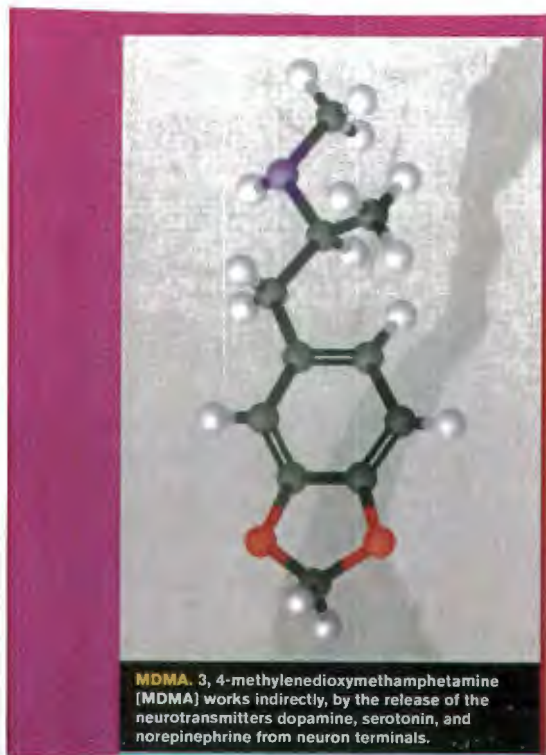
Drugs are a frequent topic of debate amongst ravers. Some think that drugs should be done away with entirely, others think that only drugs that increase the vibe, such as Ecstasy, marijuana and acid (LSD), should be allowed. Still others think that the Rave scene is about personal choice and if society decides which drugs are good and which drugs are bad, it is imposing personal morals on others (Stiens 1997:10). Drugs in the Rave scene include: MDMA (Ecstasy), LSD, marijuana, cocaine, speed, ketamine, alcohol, amyl nitrate (poppers) and even "natural" alternatives such as herbal Ecstasy and Midnite Flite. (*See figures 4.4 - 4.7*).

4.7.1 Herbal Ecstasy

Since 1993, ravers seeking the Ecstasy high have circumvented its illegality by using forms of herbal Ecstasy such as Cloud 9, a legal and cheap organic alternative. Sold in health food stores and Rave clothing shops, herbal Ecstasy is an attractively packaged combination of the herb ma huang and other herbs high in caffeine content such as Cola nut and green tea. Ma Huang is an ephedra, an amphetamine-like stimulant used in cold remedies, weight loss pills and muscle builders. Advertised to deliver increased energy, sexual sensations and inner visions, the combination takes effect within an hour. There have been reports of heart attacks, nerve damage, strokes, seizures, nervousness, vomiting, insomnia, high blood pressure and even death associated with its use. These effects appear to occur when high dosages of the pills are taken. Accordingly investigations into herbal Ecstasy are continuing (<http://1995:01>).

Figure 4.4: Drugs in the Rave scene include Ecstasy (MDMA) and cocaine.

Source: Ministry, April (1999:52-59)



Ecstasy




COCAINE A central nervous system stimulant that heightens alertness, inhibits appetite and the need for sleep, and provides intense feelings of pleasure.

Cocaine

Figure 4.5: LSD and Speed (amphetamine). Source: Ministry, April (1999:52-59)



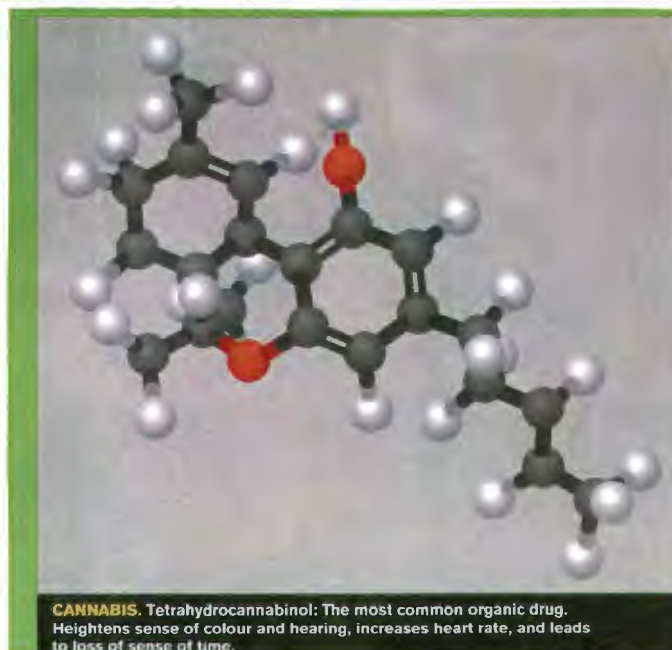
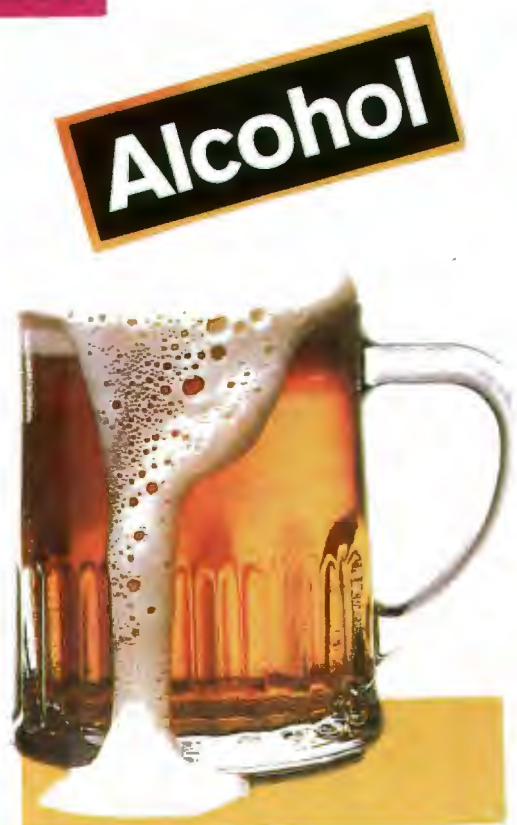
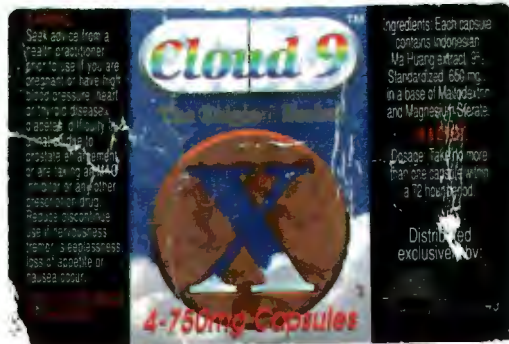


Figure 4.6:
Cannabis.
Source:
Ministry, April
(1999:52-59).

Figure 4.7: Legal drugs available in the Rave scene include herbal Ecstasy (Cloud 9), MidniteFlite (<25 mg ephedrine), amyl nitrate (poppers) and alcohol.



Raves created a mass recreational drug culture and fed a craving for all night dancing. The energy released by Ecstasy felt radical but it was not targeted against the social status quo. According to Reynolds (1998:48), Rave was more like a withdrawal from normality, a subculture based around what Melechi (in Reynolds 1998:48) characterises as a kind of “collective disappearance”. There existed this whole society of people who lived at night and slept during the day. Gray (in Reynolds 1998:48) refers to this idea as “turning the ordinary world completely on its head... almost like slipping into a parallel universe.”

4.7 THE PEOPLE WHO ATTEND RAVES

Since Rave culture adopts individualism, a “come as you are” mentality, practically anybody could be a raver. A typical raver can be male or female. They may or may not be heterosexual. Many are university/ technikon students or scholars. Others have jobs. Some are professional people. Some ravers may be as young as thirteen or as old as fifty (Brown & Behlendorf 1995:04) but most are between 17 and 25 years of age (Stiens 1997:09). They probably come from middle class families and are reasonably well educated (Stiens 1997:09). Be that as it may, none of those participants fall under one stereotype. Certainly there are a lot of confused teenagers and apathetic “twenty-somethings” but there are also lawyers, engineers, designers and writers. Ravers are some of the most diverse people one will ever meet. Unlike other drug scenes, Rave scenes do not result in participants dropping out of life (Brown 1998:10).

Raves also tend to reflect the racial diversity of the general population. White, black, Asian, coloured - it all seems not to matter. (*See figure 4.8.*) Ravers insist that “inclusion” is central to the Rave scene. Raves became a cross-roads where unlikely subcultures would meet (Melechi in Redhead 1993:36). Ecstasy was undoubtedly the catalyst of this coming together. A new atmosphere of sociability began to emerge, a sense of community that manifested itself in new revivals of contact (hugging, kissing and massaging) and exchange (drinks, cigarettes, joints and poppers). As Melechi (in Redhead 1993:36) so aptly commented: “If club culture had before celebrated an ecstasy of selflessness and oblivion, the new ecstasy was one of belonging and togetherness, of brothers and sisters in a ‘Promised Land’.”

Many people use Raves as escapes, as “weekend excursions” from their otherwise stressful or mundane school and home lives (Brown & Behlendorf 1995:04). Infantilism is generally very predominant among ravers.

Figure 4.8: Racial diversity and inclusion. Source: Mixmag, January (2000:134); July (1999:115). Ministry, June (1998:102-103). M8, October (1999:160).



STEAMINI

Lollipops, baby's dummies, glow sticks, cuddly toys, backpacks and shirts emblazoned with cartoon characters are common. (*See figure 4.10*). In a sense, this embodies the culture. It is the regaining of innocence and forgetting about problems for a while. It is a recreation of that time in their lives when play was the most important thing and problems did not seem to matter (Stiens 1997:09). Raves and Ecstasy represent "a fantasy of liberation, an escape from identity. A place where nobody is but everybody belongs" (Melechi in Redhead 1993:37).

The Rave has always been portrayed as a place where the rampant use of "E" takes place. No one can deny drug use at Raves. The use of Ecstasy is becoming more frequent and is one of the real issues that educators need to be concerned about. Another issue would be the underlying philosophy of Raves. Perhaps the question to ask is why more and more young people are being drawn to the Rave culture and its practices.

4.8 PHILOSOPHY OF RAVES

People would hardly take drugs because they want to subject their bodies and family to the pain that drugs cause. Many people begin to take drugs in order to escape life or to find more meaning in their present existence. Young people are searching for love, belonging and acceptance. Hoy (1998:05) asserts that pivotal to understanding the experimenting with and use of both alcohol and drugs, is the human need for excitement and adventure and of warmth and friendship. Hoy (1998:05) believes that modern society offers few real possibilities for risks and excitement and for challenge which can develop own limitations. There are also too few opportunities to get to know one's own body and to release aggression and satisfy the need to explore.

An important ideal for all humans is that of warmth and friendship. It is possible that a Rave environment, that seems negative to the adult society, due to the use of drugs, can be experienced as including, accepting and warm by adolescents. It might be that "decent" youth environments can seem expelling and excluding. One could think that a "yes" to try Ecstasy is experienced as a "yes" to warmth and friendship (Hoy 1998:06). At a Rave, a raver will include all and exclude none. In fact it is an environment where one can be who one is, without having to change one's views.

Figure 4.9: Infantilism.

Source: M8, January (2000:120); October (1999:130).



When a raver was asked to tell why he has chosen Raves (a negative youth environment) over church (a decent youth environment), he replied as follows: “Why should I go to church when I’m not accepted there? I want to go where I am accepted, not where I’m told what I look like and what I’m doing is wrong. I have finally found a place where I fit in. I am not judged because I may not be wearing suitable clothing or what I think of a particular subject, or don’t agree with those around me. Every Rave I have attended, I have been surrounded by love. I am not afraid to go up and talk to people because they make me feel welcomed. We are one big happy family where we all understand, or try to understand each other. It is a huge release.”

The following section will examine PLUR and the New Age Philosophy.

4.8.1 PEACE, LOVE, UNITY AND RESPECT (PLUR)

A fundamental Rave ideology expressed by the acronym PLUR (peace, love, unity and respect) was coined as the Rave “anthem” and became an organising principle for the scene in 1992 and 1993. It was an ideological statement that included people's feelings about Rave. PLUR is the basis for much, but not all, of the vibe that many people refer to when discussing Raves (<http://1996:01>).

To some participants Rave feels like a religion (Reynolds 1998:xviii). PLUR is a general ethic found in most religions and thus is an important part of Rave culture as it provides hope and love in a world that is often characterised by despair. PLUR forms a foundation for the constantly emerging relationships in the Rave community. RaveSafe (1997:36) explain PLUR as follows:

Peace: (P) “Is the core of energy found within ourselves when we let go of all our fears. We have a loss of interest in judging ourselves and others around us. We think and act spontaneously, enjoying each moment, as we appreciate everything and smile through the eyes from the heart.”

Love: (L) “We all long for love, understanding and acceptance. We can only truly give and receive love once we have gained acceptance and peace within ourselves. Our actions of love towards others all stem from the love we have for ourselves.”

Unity: (U) “Is what happens when a whole lot of people who have peace, experience their love for themselves and each other, creating a oneness of self with the group.”

Respect: (R) “The attitude you reach because of Peace, Love and Unity, which allows an environment of freedom and choice. You allow yourself the freedom to be yourself, as you allow others the freedom and space to be themselves.”

New ravers tend to get caught up in the unity aspect as they are overwhelmed by the sense of solidarity among the many different people with whom they find themselves dancing (Brown & Behlendorf 1995:11). While PLUR is important ideologically to Rave culture, it has become, for many people within the Rave community, something to cling to as the dynamics of the earlier scene have begun to dissipate. PLUR is also an important part of the Rave scene because it provides a loose guide line for people who are new to the scene as well as a lifeline for those who see that the scene is changing (<http://1996:01>). (*See section 4.10 for detailed explanation*). PLUR is the rigid format which Raves subscribe to: aggression, judgementalism, racism, sexism, homophobia and any other form of negative energy is not tolerated.

PLUR also functions as a mechanism by which people can come together without the pretence and hostility that is experienced in everyday lives. PLUR provides a way for people to live out their values and openly encourage a certain type of behaviour in an increasingly aggressive, competitive and individualistic society. It is a means by which people may reach out to each other without fear of a hostile response (<http://1996:02>). Some ravers are so committed to PLUR and the Rave scene that they believe Raves are instruments of social change. They believe the positive effects of raving are spreading into the lives of all involved and in turn the people who come into contact with ravers are also affected in a positive manner (Brown & Behlendorf 1995:11). Consider the following quotes from some ravers, for example:

“...Teach people (who are new to the scene) about PLUR by being a living example of it. They are not going to give peace, love, unity and respect to us if we do not give it to them” (<http://1996:02>).

“...Treat others the way you want to be treated. That is the only route towards the positivity that will unite us all. The next time someone gives you a hard look, do not resort to a negative

response because that will only create more negativity. Smile, let the goodwill flow and they will follow the new direction” (Tito in Lowe 1996:01).

“No matter what happens in popular culture, you keep the vibe alive. This isn’t specific to our little scene. PLUR in all aspects of life, no matter where you are. When you are walking down the street, do the same thing for strangers that you would at a Rave. When you are at work or school do the same thing there. And then instead of the mainstream changing our culture, our culture is changing the mainstream... isn’t that the point of a movement, to affect the world?” (Demmon in Stiens 1997:13).

4.8.2 New Age Philosophy

One can say that the New Age philosophy is present in Rave culture. A popular New Age belief explaining the “random character” of nature and expressed by Rave bohemia is illustrated best by the well-documented “butterfly” effect of an individual’s movement on the rest of events across the globe. As Russell (in Redhead 1993:158) explains, one decision and action has an exponential impact altering the actions of others. “The individual may seem as inconsequential as a butterfly but in fact has an enormous incidental influence over world events.” Penell (1990:136) maintains that the New Age is a holistic philosophy, which presents the planet as an inter linked structure. This means that anything one does has a profound effect on the rest of the planet. In the light of this, consider the following Rave flyer (in Reynolds 1998:293) entitled “House Music & Planetary Healing”:

“When used with positive intention, Group energy has the potential to help restore the plan of Love on Earth... When you open your heart, and trust the whole group you dance with; when you feel love with everyone, and they return it, a higher vibration can be reached. This happens when a crowd is deep into the vibe of House music... In the true sense of rhythmic movement, the effect is to align the physical, mental and emotional bodies with the Oneness of All that Is... Help push the consciousness another level into Enlightenment... Don’t put out negative energy and feelings. Leave the old ways behind. Throw yourself into the winds of transformation and sow the seeds for a new world - one where the human family is together again. When people respect and care for each other as a community-organism. It’s up to us to spread the vibe. Spread the Peace!”

The New Age movement is generally a collection of Eastern-influenced metaphysical thought systems, a variety of theologies, hopes and expectations held together with an eclectic teaching of salvation, "correct thinking" and "correct knowledge." It is a theology of "feel-goodism," "universal tolerance," (permitting other people to do and say as they like) and "moral relativism" (there are no specific requirements as to morality, belief and behaviour), (Slick 1998:01). "Sin" and "evil" are simply part of the cosmic law of cause-and-effect, which both Hinduism and the New Age typically label as karma. Good and bad are cosmically balanced, with good actions resulting in positive energy and bad actions in negative energy (Barker 1998:03).

The New Age revolves around the central belief that humans are capable of shaping reality and establishing truth (Barker 1998:01). Man is central and is viewed as divine, as the hope for future peace and harmony. The term "New Age" refers to the "Aquarian Age" which, according to New Age followers, is dawning. It is supposed to bring in peace and enlightenment and reunite man with God (Slick 1998:01). The New Age deals with issues of planetarization and "universal consciousness," the emergence of an awareness that we are all one people living on one world that share a common destiny. The basic goals of the New Age movement are peace, unity, economic fairness, global society, religious harmony, one world government and environmental consciousness (Hoy 1998:08). All this will eventually lead to advancing everyone into an Aquarian Age of togetherness.

Hoy (1998:08) maintains that the New Age is nothing new but has entered our lives at a time when people are seeking answers and meaning to life. Lottering (in Hoy 1998:09) explains: "Even with the technological advancements and the idealism and activism of their parents, young people face a world that seems to be getting worse and worse rather than better and better. Disillusionment is increasing. Young people are looking for answers but all the traditional places are not providing those answers." While the church is no longer reaching the youth and less young people are responding to the traditional religion of their parents, the Rave environment is attracting more participants.

Drawing on diverse sources - American discourses of self-realization and interpersonal therapy, New Age notions of "healing" music and "abundance consciousness", sixties flower power - Rave positivity ushered in the beginning of the nineties "zeitgeist" that emphasized

caring and sharing, a return to quality of life over standard of living and green eco-consciousness (Reynolds 1998:82). Reynolds (1998:83) believes the anti-social egotism of the eighties, was eclipsed by a shift from “I” to “we”, from materialism to idealism and from attitude to platitude.

Needless to say, the “loved-up” Rave scene was a rich climate for the “breeding” of New Age ideas. Raves were likened to an “Age of Aquarius-style utopian togetherness” (Hoy 1998:08). Ecstasy turned young people who normally behaved in a noisy and violent way into warm-hearted, gentle, friendly individuals. For Reynolds (1998:46) this was proof that Ecstasy really was the instrument of a spiritual and social revolution. Engulfed with idealism and a will-to-belief, many ravers latched on to ideas about spirituality and the New Age, battling to express the overwhelming Ecstasy-induced feelings. For most ravers the “back to the sixties” and “dawning of the Age of Aquarius imagery” was tongue in cheek, a cover for pure hedonism. However, many felt fully transformed.

4.9 SPIRITUALITY

The most ecstatic strain of pop spirituality in the 1990’s was produced by the Rave movement. Music styles began employing religious imagery to cloud the distinction between cult and culture (Davis 1998:01). There was a subtle adjustment from music to lose yourself in (acid house) to music to find yourself in (ambient house). The group S’Express’s *Mantra for a state of mind* was described by Moore (in Reynolds 1998:84) as music “to cleanse your mind.”

Dance cultures have always been driven by a kind of extreme hedonism, however Raves introduced the greatest amount of spiritual, pagan and extraterrestrial or alien “desires” into popular music culture since the heyday of 1960’s psychedelia (Davis 1998:01). (See figure 4.10.). Rather than looking for individual sexual encounters, most ravers sought trance-like states and a sense of communion (Davis 1998:01). DJs were treated as “digital shamans”, “priests”, “channellers of energy” (Behlendorf 1995:09), while Hindu gods, extraterrestrials, UFO’s and computer-generated hallucinogenic graphics appeared on CD covers, posters, T-shirts, and the walls of Rave clubs (via light shows). According to Davis (1998:04) the alien phenomena suggested the collapse of “traditional” religion. At the same time, it fed a keen desire for spiritual experience and a cosmic sense of scale.

Figure 4.10: Rave flyers using pagan and religious symbolism and themes of kindness and enlightenment.



Spiritual Awakening



Figure 4.11: Alien phenomena, altered states, ritual.

Source: Ministry, December (1998:120); Mixmag, January (2000:121); October (1999:138).



Davis (1998:02) maintains that “today's younger spiritual seekers pride themselves on a more anarchic and diffuse world view, one that refuses distinctions between spirit and body and between the sacred and the pop profane.” One popular Rave T-shirt is an ideal example, featuring a Buddha with a circuit board and the slogan “Spirituality Through Technology” (Reynolds 1998:290). Compared to the hippie generation’s serious embrace of the “I Ching” (Chinese wisdom), the “Upanishads” (Hinduism) and mantra (transcendental meditation), today’s young people seem less interested in teachings or traditional practices than in raw experience: altered states, ritual and Ecstasy (Davis 1998:02). (*See figure 4.11*).

The 1990’s prompted a grand return of psychedelics to alternative culture. While Raves grew in popularity, ravers and others explored entheogens (from the Greek, meaning “god-inducer”) like Ecstasy and LSD (Davis 1998:03). With the rise of marijuana and acid (LSD) chic amongst young people, drug culture took on ritual and utopian connotations.

4.9.1 Rave as a spiritual event

The Rave culture, seen as purely hedonistic by the establishment, is frequently regarded as a spiritual event by those involved. Raves are likened to trance-like tribal rituals where ravers celebrate their unity and shared, uplifted state, giving and receiving freely from one another (Saunders 1997:183). Unlike the traditional religions where there is a pronounced leader, Rave as a “religion” has no such claim. Raves are nevertheless comparable to the New Age, Eastern and tribal religions which embrace altered states of consciousness and mysticism. Pertinent to these religions is self discovery and enlightenment. According to Morrison (1998:01) to be enlightened is simply to be “absolutely, unconditionally intimate with the present moment. No more. No less.” Enlightenment focuses on the “here and now” and encompasses the conception of one’s body and soul as energy. Eastern and tribal religions also emphasise the oneness and connectedness of us all which is of significance when considering the PLUR “mantra”, dancing and the group collective energy that flows at the Rave.

Raves have been termed as “technoshamanism” by some, a term that denotes that it is the music and culture itself that will introduce or lead one into a deeper awareness of the spiritual dimension of life (Hoy 1998:07). The combination of electronic dance music, computers, designer drugs and cultural idealism reawakened interest in what used to be called “techniques of ecstasy” by hippie anthropologists (Davis 1998:01). Repetitious sound in the form of

techno and ambient music accompanied by computer generated “trippy” designs, dance, light (lasers and strobes) and psychotropic drugs produces trance states arguably similar to those induced by Shamanistic chants, drums and dances that still exist amongst primitive people like the American Indians (Davis 1998:01).

As previously mentioned, Raves are very similar to American Indian ceremonies where music is the key towards pulling oneself into a unique, emotional and psychological state (Behlendorf 1995:10). Rave takes people back to one of the original meanings of music, to the root experience of “trance and dance”: transcendence (Griffin 1995:57). In a certain sense, Rave rediscovered the ritual significance of dance. (*See figure 4.2*). In its deepest ritual manifestation, dance turned existence (from the Latin, meaning being outside) to ecstasy (from the Greek, meaning being beyond). According to Griffin (1995:60) it made possible “the journey from the private experience of life to a vantage point beyond individual reality”. This is the deeper significance of trance, a word which originally meant “going across”(Griffin 1995:60). The Rave of today still resonates with this ancient ritual power.

4.9.1.1. *The “archaic revival”*

The exploration of music and drug-induced trance states at Raves was only one element of what McKenna (1998:01) called the “archaic revival” which “sought to remove social constructs and packaged identities in order to discover a primal realm of ecstatic intensity and tribal identification” (Davis 1998:03). (*See figure 4.12*). The “archaic revival” also crossed-over with scenes devoted to piercings (an ancient practice in Eastern countries), tattoo and sadomasochism. Pierced faces, tongues and navels as well as tattooed bodies are prominent amongst ravers. Though not overtly religious, Davis (1998:03) maintains that these subcultures nonetheless speak to a desire for intense rites of passage, secret practices and primitivist allegiance. (*See figure 4.13*).

The “archaic revival” paradoxically shared the stage with modern technology. Rave culture is a very spiritually aware culture that centres on an altered state of consciousness or awareness that is caused by music, physical activity (dance), lights and in many cases the ingestion of drugs (Saunders 1995:02). To stretch the “religious” metaphor, DJs are the high priests of the Rave ceremony, responding to the mood of the crowd, with their mixing desks symbolising the altar, the only direction in which the ravers consistently face. (*See figure 4.14*).

Figure 4.12: The Archaic Revival.

Source: Mixmag, July (1999:60-63).



Figure 4.13: Tattoo, piercings and sadomasochism. Source: Mixmag, July (1999), M8, January (2000:77).

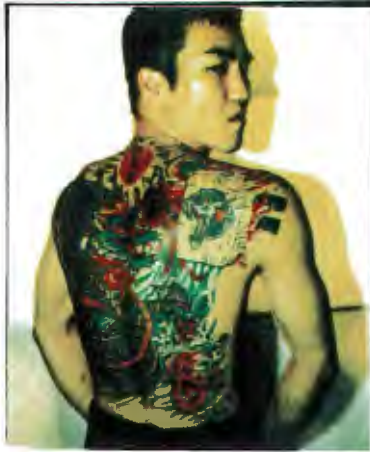


Figure 4.14: The DJ- “a high priest”, a channeller of energy.

The mixing decks - “the altar”- the only direction in which the ravers consistently face.

Source: Vibe, November (1996:11).

Ministry, January (1998:105).

M8, May (1998:103).



Dancing at Raves may be construed as the method by which Ravers “worship” the god of altered consciousness (Newcombe in Saunders 1995:01). As Griffin (1995:59-60) explains: “When the music, the setting and the people gel, when a critical mass of collective energy and euphoria is reached, then the raver enters a state called ‘enthusiasm’ or ‘revealing the god within’... What can happen in a Rave is that you temporarily get a sense of oneness with your mind, body and the people dancing around you. It’s like a mainline to a state that is theorised about but difficult to achieve. With dance and music, temporary neuroses get suspended - it is like a sustained glimpse of a higher state of being.”

Many ravers allude to the “higher state of being” as a mystical or religious experience.

4.9.1.2. *Mysticism*

Categorized as an “ism”, mysticism is usually defined by dictionaries and encyclopaedias as being a spiritual discipline developed to make contact with the divine. While this definition is frequently correct, there have been many people who have never followed a special discipline that have had mystical experiences. Also, there have been many people who have followed a set of spiritual practices carefully and for a prolonged period that have never contacted the divine (Goodwin 1999:01). Goodwin (1999:01) describes the mystical event as a personal experience during which one feels as though they have touched or been touched by some higher or greater truth or power.

This may occur inside or outside of a religious setting, within or outside a religious tradition, and may occur spontaneously or as the result of deliberate activity - for example during the practice of rituals, meditation or at a Rave. A Zen Buddhist monk, Bertrand (in Saunders 1997:188) likened raving to walking meditation. “These people are meditating, only they do not realise it. They are in the same state. They are completely in the ‘here and now’, moving spontaneously without thinking about it. Everyone is totally aware yet absorbed in their dance, without self consciousness or internal dialogue.” According to Bertrand, this is the very essence of meditation (in Saunders 1997:188).

Pahnke (1971:01) derived nine universal psychological characteristics from a study of the literature of spontaneous mystical experience reported from almost all cultures and religions. When subjected to a scientific experiment, these characteristics proved to be identical for

spontaneous and psychedelic mystical experiences. Pahnke studied psychedelics extensively in clinical settings and concluded that when a psychedelic drug was used in an appropriate setting and with appropriate intent, experiences that closely resembled classical mystical experiences would occur.

He formulated a nine point description of these psychedelic induced experiences (Pahnke 1971:02):

1. Unity- a sense of cosmic oneness.
2. Transcendence of time and space (timelessness).
3. Deeply felt positive mood.
4. Sense of sacredness.
5. Noetic quality- a feeling of insight or illumination.
6. Paradoxicality- A person may realize that he/she is experiencing, for example, “an identity of opposites,” yet it seems to make sense at the time.
7. Alleged ineffability- a sense that one can not adequately describe the richness of this experience.
8. Transiency- the experience passes.
9. Persisting positive changes in attitudes and behaviour.

Many characteristics of the mystical experience are reminiscent of the Ecstasy and Rave experience. In the Rave context, the overall feeling of positivity created by Ecstasy’s “urge to merge” can diffuse into a collective mysticism. Rave theorists talk of “an empathy that shades into the telepathic” and a “communism” or sharing of similar emotions (Reynolds 1998:xxvii). (Telepathic refers to the direct communication of thoughts and feelings between minds at a distance). Ravers feel a sense of unity or oneness with each other. The psychedelic part of the MDMA experience is gentle, taking the form not of perceptual distortion but of a “numinous glow” - a feeling of pervasive emotional warmth, wellbeing and satisfaction. There is a sense of hyper-real closeness, “cleansed” perceptions and the recovery of a child-like amazement at the here and now- the experience of seeing the world in a fresh way, as if for the first time. Reynolds (1998:xxvii) maintains that this feeling of gnosis- being in the know, living in the now - can launch some Ecstasy initiates on a journey of spiritual discovery beyond recreational drug use.

Language is unable to capture the intensity of the event. Many participants of Rave do not seem able to describe their experience as anything else than “absolutely unbelievable, there was not anything like it”, “great” or “this is not dancing, this is a religion” (Rietveld in Redhead 1993:63). Although ephemeral, the experience is “relivable”. Many ravers claim that the positive energy or insights gained from Raves have been integrated into their ordinary lives to make worthwhile changes in their attitudes and interactions with others. Reynolds (1998:289) nevertheless maintains many people had these life-changing experiences but they did not necessarily dress them up in cosmic significance by relaying they had been touched by some higher power. Most people enjoyed them as relatively local transformations in their modes of self expression and the way they related to friends and strangers.

4.9.1.3. The Vibe

McKenna (in Collin 1997:206) points out that “the emphasis in techno music and rave culture is on physiologically compatible rhythms... it is the rediscovery of the art of sound, that sound properly understood especially percussive sound, can actually change neurological states in large groups of people that are getting together in the presence of this music. Raves are creating a telepathic community of bonding that hopefully will be strong enough to carry out into mainstream society.” This is the essence of the “vibe” so commonly talked about in groups of ravers. There is a tangible energy that goes along with dancing to extremely loud beats with hundreds of other people.

A sense of unity often develops among ravers in which personal creeds, race, gender, age, sexual preference and everything else on which society places so much emphasis, simply disappears into the background (Stiens 1997:12), creating an atmosphere of love, acceptance and belonging. People are normally inhibited from expressing love, moving freely and enjoying themselves because of fear (Saunders 1997:48). One of the fundamental effects of Ecstasy is to remove fear, hence the breaking of social boundaries uniting professionals and hooligans alike on the same “loved-up” vibe. A culture emerged which was not about taking control but about letting go and allowing the music and movement to take control (Henderson 1997:49). This is an experience that many young people are looking for, one that appears to be very alive in South Africa.

(See figure 4.15).

Figure 4.15: Unity - the collective "we". Source: M8, October (1999:50), November (1999:125).



4.9.1.4. *The experience*

According to Thermos (in Glyptis 2000:170) religiosity is constantly alienating from the authority of the traditional Churches and is becoming an improvised search of spirituality. The gap between traditional “truth” on one hand, and personal experience on the other, has never been wider. “Spirituality” nowadays signifies spiritual experience. In agreement with Thermos, Hoy (1998:06) maintains that spirituality in a post-modern society is reduced to what one can feel. It is no longer important to know what we believe or why we believe it but rather that “I” experience what “I” believe. It is this experiencing that makes one feel alive. As a purely psychological event, the search of spirituality is not so different from the experience of drugs or sexuality, where the individual believes that he is alive though the stimulation of emotions and desires (Thermos in Glyptis 2000:170). At a Rave, there is a certain kind of “ecstasy” one can find only by losing one’s self in a thronging mass of ravers. The principal issue is unity.

Consider the following quote (McCord 1998:01):

“No matter who you are, you feel a sense of ‘connectedness’ with all those around you. Your energy becomes part of a greater circle of energy and love. You feel free to be who you have always wanted to be, because nobody is judging you. They’re experiencing the exact same rush of happiness. And when you leave the Rave, you carry that free spirit and high energy out with you. You incorporate it into all facets of life, making things a little bit better. Raves have allowed me to touch base with reality and humanity. Capitalism sucks. People are beautiful. People ought to tell other people that they are beautiful more often. The love and bonding experienced at Raves needs to be carried out into the world. We are the visionaries and it is our job to slowly change society...”

Stiens (1997:12-13) perceives Rave culture as a “religion” based on shared experience where individual religious beliefs are integrated into the larger, unified experience. In many senses PLUR is the dogma that ravers believe in. It is the belief that for one night a community can be created that does not function for the same reasons that larger society does. It is the belief that peace and love are worth trying to bring back into a society that now seems so devoid of them.

The following table adapted from Bennett (1992:10-13) indicates the significance of Raves to young people:

Table 4. 1: *The significance of Raves to young people.*

CRITERIA	RAVE CULTURE
1. Significance to the Individual (a) Intimacy (b) Security	1. Will learn something about himself from taking part. (a) The physical, mental and spiritual experience; an all round sensual experience shared with others. (b) A chance to lose yourself in the experience with those around you and a feeling of sharing the same experience; a feeling of not being alone and understanding where other people are through experiencing the same phenomenon.
2. The group	2. A chance to meet up with fellow ravers; no barriers; - "this is the real church" (a quote from a Rave goer); all in it together.
3. The challenge	3. New heights of experience; to dance all night; get higher than ever before.
4. Attitude of the outsiders towards ravers	4. The ravers are weird, they are dangerous, they are stupid, they are mindless, they are frightening and antisocial.
5. Attitude of ravers towards outsiders	5. PLUR (peace, love, unity, respect). Keep the peace, be friendly, be keen to share, be interested and open.
6. The future of Rave	6. ? Uncertain

4.9.1.5. *The separate space*

Rave is most certainly a culture of escape. It is an escape from mainstream society into a utopian world for a few hours. It is a creation of space where love and happiness exist beyond everything else and are not restricted by laws, rules or unhappiness present in everyday society (Stiens 1997:13). Rave locates *jouissance* in prepubescent childhood (Reynolds 1998:412),

hence the garish colours of clothing, the backpacks and satchels, the lollipops, glow sticks, dummies and teddy bears. Reality does not exist within a Rave. It is not often that one sees an eighteen year old girl sucking on a dummy in mainstream society or a forty year old with a lollipop wearing a teddy bear back- pack or satchel. A Rave is a phenomenon that does not exist within the rules of society. It is the creation of a separate space (Stiens 1997:13).

Beyond the culture of escape though is a culture based on hope. The core of this separate space is the knowledge that it is a temporary, separate space. After the Rave you have to come home. There is knowledge that tomorrow I will work on homework and Monday I will go to work or school but right now, I am going to *play*. There is an emphasis on a focusing of energy and the belief that what happens during this Rave is positively affecting all of the energy on the planet. PLUR is perceived by ravers as something that goes beyond the Rave scene.

However, not all people who go to Raves are deliberately looking for the spiritual aspect to a Rave. Some have expressed reservations about the New Age and Eastern philosophies. Most people at Raves are not worrying about the ozone layer or touching crystals to feel positive energy. They are just out for a good time and climbing on the Rave band wagon (Gillespie in Redhead 1993:164). As far as the sterner pop-culture critics are concerned, Rave culture is escapism pure and simple (Reynolds 1998:47). "Kids are having a good time... Just like kids have always done... All this bollocks about the E culture, it is just people projecting their ideas on to something that's always been there: mindless hedonism" (London in Reynolds 1998:47).

The preceding sections have dealt with the most favourable, philosophical and idealistic views of Raves and have in a sense espoused what the Rave scene wants to be. The closing paragraph is a comedown to reality. There is no idealism, no PLUR, no archaic revival, no ecstatic dancing - except in small doses and hopeful predictions. What follows is commercialization, a feeling of loss of the sacred and the ruination of the "vibe". This part of the chapter deals with overdoses, hedonism and aspects that society fears from the Rave scene.

4.10 *THE HERE AND NOW*

The Rave scene has always existed as separate from mainstream society, an underground movement labelled as deviant by those in the mainstream. Rave has been a subculture of escape. It is because it existed apart from mainstream society that people could escape to it and that it could set up its own value system, its own morality and its own rules or lack thereof (Stiens 1997:15).

However, today you turn on the TV and hear techno music on everything from Coca-Cola commercials to sport reports. You turn on the radio and hear about a large Rave sponsored by Camel or a "Freedom Dance Festival" sponsored by NikNaks and tickets sold at Computicket or Ticketweb. Rave fashion has invaded store shelves. The Rave scene is gradually being appropriated into mainstream culture. Stiens (1997:19) maintains that in a way, this is the best defence that society could ever have used against the Rave scene, but most ravers agree that attempts by the music industry to commercialise the Rave, have begun to dilute the social ideals of PLUR connected with the parties (Morgan 1998:01). The Rave ideals of peace, love, unity and respect are being replaced by the ideals of consumerism. Raves have increased in price from R25-00 per ticket to R120-00. Lights have gone from being a couple of lasers and strobes to spectacular setups that cost thousands of rands. DJs are demanding very high fees. The use of high tech computerised equipment has become the norm. Each Rave strives to be bigger and better than the previous one.

On the one hand, there are the young people who participate in Raves merely to "do drugs", to be trendy or just to see what the latest rage is. On the other hand, there are the people who have bought into the Rave philosophy, who will insist that there is a meaning to Rave and that it is a social movement they are participating in, not just a party. Many ravers feel there has been a loss of the "sacredness" that goes along with the Rave scene. Ravers' warm, friendly smiles are being replaced by sour, cheated expressions- their Ecstasy pills no longer achieved the desired effect, probably because they had over indulged so heavily the past few years that the old "buzz" simply could not be recovered.

Stiens (1997:19) believes that as the Rave scene becomes more popular, fewer people are going to create a temporary loving space, and more people are going to get "wasted." There seems to be a moment inherent in any drug culture, when the scene crosses over into the "dark

side". "Getting high" degenerates into "getting out of it". Suddenly the clubs are full of "dead souls, zombie eyed and prematurely haggard". Instead of outstretched arms and all accepting extroversion, there is unsmiling emptiness, robot-like body movements and "autistic" self absorption (Reynolds 1998:191). What started off as life affirming fun begins to hint at desperation. Ravers' drug stories become grimmer and even more shocking: someone who threw up and then picked the half digested Ecstasy pills out of the vomit and swallowed them again, teenage girls hold onto their friend as she retches over a toilet seat having taken too many pills on an empty stomach (Reynolds 1998:191).

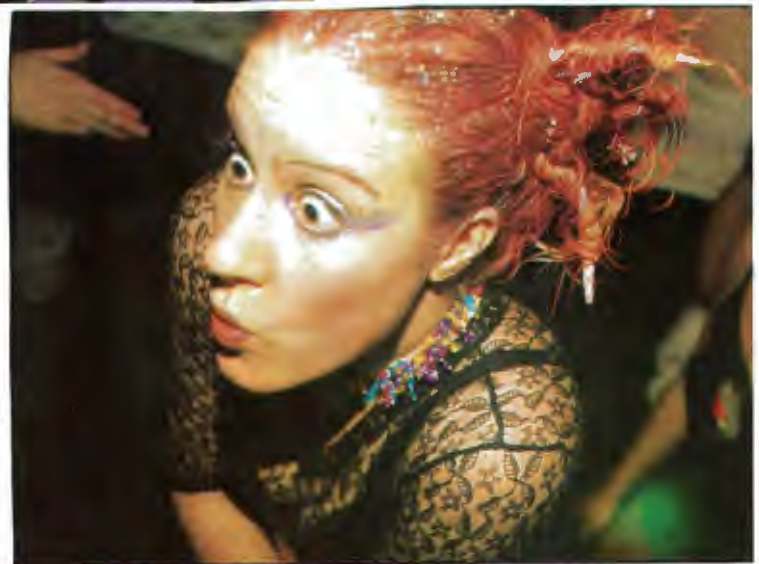
The buzz words of ravers were telling. Pleasure was expressed in a masochist slang of catatonia and brain-damage (Reynolds 1998:112). On a good night, ravers would get "shitfaced" (off your face), "fucked", "comatosed" (into a coma), "cabbaged" (turned into a vegetable), "smashed", "annihilated" or "wasted". Good tracks, that is melodies or tunes, were referred to as "mental", "wicked", "kicking" or "nosebleed". Dedicated to getting severely "cabbaged" many headstrong adolescents resorted to "stacking"- taking from three to six tablets per session (as opposed to one or two tablets which are usually taken) and sometimes between ten and twenty Ecstasy pills over the course of a three day weekend (Newcombe in Reynolds 1998:113). (*See figure 4.16*).

These ravers quickly became locked into a cycle of overdoing it, then paying for it with a severe mid-week comedown. This depression could only be overcome by the thought that Friday would soon come around, presenting the opportunity to do it all again. Unwilling to face the Saturday morning "crash", these adolescents would pop more pills in order to stay awake right through until Sunday. Lacking the patience to wait the hour it takes to "come up" on Ecstasy, they would eagerly assume that they had bought a "dud" pill and take another one. According to Reynolds (1998:113) this was certainly an unbeatable recipe for disaster. Some would crush up two or three Ecstasy pills and snort them because nasal ingestion was a faster acting method of administration.

Adolescents sitting against the walls of clubs sniffing poppers, passing a joint around the "chill out" room, going into the toilets in pairs or groups to snort cocaine or speed (anything to heighten the intoxication) is a regular occurrence. Polydrug use is gradually establishing itself



Figure 4.16: "Wasted. cabbaged, shitfaced."
Source: Mixmag, January (2000:156;159;161); July (1999:183); October (1999:185). M8, November (1999:91); September (1999:116)



as the norm amongst ravers. In the “chill out” room one may find a small stall offering RaveSafe drug education leaflets written in such a way as to engage young people on their own level. In the paramedic support area, youngsters suffering the effects of impure or adulterated “E’s” or over indulgence, huddle wrapped in blankets with plastic “puke” pots on their laps (Reynolds 1998:264). Outside, the ambulances wait for possible overdoses or adverse drug reactions.

Rave culture is after all a drug culture and the key drug it is based on elicits emotions - it does not enhance cognition. For the few hours that Ecstasy lasts, the user is the happiest person on earth. For a generation of stressed out young people, Ecstasy is a very seductive form of escapism. However, the effects wear off over time and one’s body becomes tolerant to the drug. No high ever matches those initial highs and eventually one has to take more and more just to feel anything at all - which in part explains the fall of the Rave and the ruination of the “together vibe”.

4.10.1. The fall of the Rave

With continuous use, Ecstasy stopped working. Ravers turned to speed, marijuana, LSD, cocaine, ketamine, even heroin: vicious cocktails that are not conducive to the “together vibe” that has made Rave meaningful to so many people (Brown 1998:04). Originally Ecstasy was the catalyst for people reaching out to each other. Strangers would actually come up to you, smile and say “hello”. However, amphetamine (speed) closed down the open hearted extroversion replacing eye contact with vacant stares (Reynolds 1998:304). Speed was lethal to the Rave scene’s good vibe. Polydrug culture has destroyed the synergy effect that occurs in Rave scenes during the “honeymoon phase” of Ecstasy use where ravers, all relatively new to the drug, “buzz” on the same pure Ecstasy. Now many ravers are on different trips. Heart (in Reynolds 1998:308) asserts that the Rave scene was ruined when the pills were replaced by powders (referring to cocaine, speed and ketamine). The Raves simply splintered into different vibes. Adding to the dissipation of that vibe was a diligent police force, who made it their duty to raid many Raves.

The truth is that there has always been a dark side to Rave culture. Almost from the beginning, the blissful experience of dance and drugs was blurred by anxiety. “Losing it” is a pleasant release from the confinement of identity but there comes a point at which the relief of

abandoning self-consciousness and self-control, develops into a fear of being controlled by the drug-technology interaction (Reynolds 1998:201). Amidst all positivity and idealism, the nihilism latent in Rave's drug driven utopianism is always lurking, waiting to be "hatched" (Reynolds 1998:191).

Like most utopian movements, the first wave is the freshest and the collective "bubble" the original ravers were in, was destined to pop (Brown 1998:05). Rave still exists of course and the attraction of young people to the scene will continue as long as there are anxious, despondent adolescents. However, Rave in its "unadulterated" form is gone. Circulated at a Rave, the following leaflet was a heartfelt plea for a return to Rave's lost innocence (in Reynolds 1998:300):

"Why are you at this event? The Rave scene is not just about techno. This scene is not just about drugs. This scene is not just about fashion. It is something special about unity and happiness. It is about being yourself and being loved for it. It should be a harbor from our society. But our scene right now is disintegrating! Old style ravers- remember when everybody hugged all the time- not just to say hello and goodbye? Remember when people just said hi for no reason except to be your friend? Remember how good it felt? Why don't we do it anymore? Newcomers- you are wanted and you should know that this scene is about openness. We all share a bond- the desire to groove to a good beat all night long. And no man is an island, everyone needs friends and the outside world is tough enough. We don't need fronts and attitudes in our scene. Open your hearts and let the good feelings flow... Ravers unite and keep our scene alive!"

Rave's growing popularity indicates that it will not die out any time soon. In fact, it is becoming a driving force behind new fashion, new music and a post modern way of living. This postmodern age is a time of social upheaval. In the midst of unprecedented affluence and technological progress, many people struggle with low self esteem, occupational stress, familial disintegration and increasing types of physical ailments (Barker 1998:01). These problems together with a growing distrust of organized religion are creating a spiritual vacuum which Raves seem to be filling. Concerned educators should respond to rather than react against any future growth in the Rave constituency. While Raves undoubtedly expose

adolescents to drugs, they also provide them with an environment of social acceptance and belonging.

Young people today are searching for meaning and purpose in life. "Who is God? Why am I here? Who am I? How can I give my life meaning? How do I get faith?" (Nouwen in Hoy 1998:11). These are questions being asked by many adolescents in one form or another. It is hardly surprising then, that organized religion has noticed the way Rave culture provides "the youth of today" with an experience of collective communion and transcendence. Just as the early Church co-opted heathen rituals, there have been attempts by Evangelists to literally "rejuvenate" Christianity by incorporating elements of the Rave experience: dancing, lights, mass fervour, demonstrative and emotional behaviour (Reynolds 1998:409). Rave style worship has become prevalent amongst young people. While Rave behaviour is a little "offensive" for the orthodox Churches, it fits in nicely with the more ecstatic and gesturally demonstrative strains of Christianity like Pentecostalism, Gospel and Born Again Christians.

Raves are symptomatic of the growing hunger among young people for relational connections and spiritual direction (Hoy 1998:11). It is imperative that educators understand young people's need for identity, purpose, belonging, relationships and meaning in life.

4.12 CONCLUSION

It is risky to theorise about Rave culture. It takes many forms. It has sides that are pseudo, commercial, boring, cynical, self-destructive and tragic. It can be no more than a pretext to take drugs or a refuge from an unbearable reality, a world that adolescents find tedious and worryingly unstable. It may also metaphorically act as a cement holding together lives that are otherwise full of despair and emptiness. Yet it is also a place of confinement where kids "rave" harmlessly, where they vent all their anger out of their systems instead of aiming it against the system (Reynolds 1998:273). Not everybody has a good time at Raves. But perhaps as Griffin (1995:58) rationalises, "that is all part of Rave's alchemy. It takes the private energies, negative and positive, sorted and unsorted, co-ordinated and unco-ordinated, and transforms them into a whole, infinitely greater than the sum of its parts." You give up the "self" to become part of the collective "we". (See figure 4.17).

In her memoirs *Nobody Nowhere*, the autistic Donna Williams (1992) describes how as a child she would withdraw from a threatening reality into “a private, pre-verbal dream space of ultra vivid colour and rhythmic pulsations.” She could be mesmerized for hours by shimmering motes in the air that only she could perceive. Rave culture, with its brilliant psychotropic lights and its driving, electronic beats, is arguably a form of “collective autism” (Reynolds 1998:414). The Rave is utopian in its original sense: “a nowhere-nowhen wonderland,” where time is removed, where the self disappears through merging with an anonymous crowd of people and being immersed in a “bliss-blitz” of light and noise. It is a “regressive womb space or undercover kindergarten” (Reynolds 1998:414); a realm of “we” - a place where “nobody is, but everybody belongs” (Melechi in Redhead 1993:37).

In the following chapter, the research design and methodology will be considered.

CHAPTER FIVE
RESEARCH DESIGN AND METHODOLOGY
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5.1. INTRODUCTION

As formerly stated (in chapter 1), a growing number of adolescents of both genders and from a wide range of social backgrounds are trying and using drugs far more frequently than previous generations. With the birth of the Rave scene, Ecstasy escalated as the “ravers’ drug of choice” and became one of the favoured substances of abuse. Although the Ecstasy phenomenon has been the subject of physiological, sociological, psycho-therapeutic and psychiatric investigation, very little research has been done nationally. Research into the precise nature of Ecstasy use and characteristics or attributes of users in South Africa is greatly lacking. Moreover, irrespective of the widespread use of Ecstasy internationally there is insufficient research regarding the ways in which Ecstasy is used and the nature of the effects produced by this drug (Solowij, Hall & Lee 1992:1162). Since there are side effects and unknown long term effects, it is extremely important to educate users and potential users. The increase in Ecstasy use among school going adolescents and young adults has made it imperative that educators learn as much as possible about the drug and present that information honestly.

In this research, the empirical investigation focusses on establishing the mode and context of Ecstasy use and whether there is in fact a typical profile of young Ecstasy users.

5.2. GENERAL AIM

The present study concentrates on the Rave movement and Ecstasy use in late adolescence, namely in 17-22 year olds, in order to ascertain the educational psychological implications of Ecstasy use. This research is generally aimed at investigating the nature of Ecstasy (MDMA) use in Durban with a view to determining the mode and context of use, that is, who uses it, why it is used, when it is used, where it is used and how it is used. Also, this research investigates and records the subjective effects of Ecstasy, including primary psychological and physical effects, side effects and residual effects and explores the issues of tolerance and dependence versus problematic recreational use. Furthermore it investigates the basic personality characteristics of its users.

5.3. DELINEATION OF THE PROBLEM

The following questions arise concerning the adolescent, Ecstasy and Raves:

- ♦ Who is the adolescent?

- ♦ What is the typical history of the becoming and development of the adolescent?
- ♦ What is Ecstasy (MDMA)?
- ♦ What are the effects of ingesting Ecstasy?
- ♦ Who is an Ecstasy user?
- ♦ Are there any similarities regarding basic personality amongst Ecstasy users?
- ♦ What are the main reasons for Ecstasy use in the life of an adolescent?
- ♦ Where is Ecstasy taken?
- ♦ What risks are involved in taking Ecstasy?
- ♦ Are users aware of the dangers involved in using Ecstasy?
- ♦ How available is the drug?
- ♦ Is Ecstasy addictive?
- ♦ Is recreational Ecstasy use becoming problematic?
- ♦ What is a Rave?
- ♦ Why do adolescents participate in Raves?
- ♦ Have Raves become polydrug scenes?

5.4. HYPOTHESES

The hypotheses put forward are as follows:

1. Ecstasy is easily available.
2. Most young people who go to Raves use Ecstasy.
3. Users believe that Ecstasy (MDMA) is generally a safe drug.
4. Users are not deterred by the potential risks involved in using Ecstasy.
5. Escalating Ecstasy doses are becoming a common pattern amongst users.
6. Many Ecstasy users are polydrug users and use other substances concurrently with Ecstasy.
7. Weekend Ecstasy use leads to "mid week blues".
8. Memory impairment increases with the amount of Ecstasy taken.
9. Recreational drug use appears to be here to stay for the foreseeable future.
10. There is no one profile of Ecstasy users. People from all walks of life and social classes take Ecstasy.
11. There are some similarities regarding basic personality amongst MDMA users.

In order to test the validity of the hypotheses set out above, it was necessary to investigate the Rave culture and MDMA as well as the age group of MDMA users by means of an extensive literature study using both foreign and local sources. Furthermore, the recruitment of a group of drug using adolescents was essential.

5.5. RESEARCH APPROACH

The type of study adopted was an idiographic study as opposed to a nomothetic approach.

5.5.1. The sample

The main aim in obtaining a sample for this study, was to try to ensure as far as possible that the sample was an accurate reflection of the Ecstasy using population, so that inferences made about the sample could be validly generalized to the said population. Obviously, the larger the sample the more representative it would be of the population. Nevertheless, in situations (like the present study) in which a random sample was selected, a sample size that is only a small percentage of the population can approximate the praxes and characteristics of the population satisfactorily (McMillan & Schumacher 1993:165).

Although this investigation focusses mainly on Ecstasy (MDMA) use in the 17 - 22 year age group (late adolescence), it should be noted that there are some as young as fifteen who are taking the drug. In an attempt to ensure that the sample was reasonably representative, the subjects were randomly recruited from Rave clubs where Ecstasy is taken openly. Despite there being an age restriction of 18 for entry into these clubs, it is important to note that not all club or Rave goers are over the age of eighteen. This allowed for the availability of younger subjects.

5.5.2. Subjects for Research

Rave clubs were approached with the intention of obtaining 50 subjects for research purposes. The criterion for inclusion in this study was "anyone who had ever tried Ecstasy". As in the Solowij, Hall & Lee (1992:1162) study of MDMA users in Sydney, Australia, it was decided against setting a criterion such as use of more than three times for fear of omitting to detect possible extreme reactions to first time use of Ecstasy. Additionally, based upon data gathered in the pilot study, it was believed that worthwhile information could be obtained not only from subjects who enjoy Ecstasy and have consequently used repeatedly but also from those that

possibly do not enjoy Ecstasy or have made a conscious decision not to use again after the first few uses. It also became apparent that certain questions such as those concerning long term effects were dependent upon significant use of the substance. Hence the constructed questionnaire to be used in interviewing was divided into three sections: one to be answered by all respondents, one specifically for “one to three times users” and another specifically for “multiple time users.”

5.5.3. *Environment of the interview*

Informed consent was obtained from each subject. The meetings with the subjects regarding their prior or present Ecstasy use were held on “neutral territory”. In this instance, at one of the Rave clubs, a place where the respondents would feel at ease. Permission was obtained from the club to use an office where one could be free of possible distractions or interruptions by others, for interviewing. Interviews were conducted during the day between 11:00 a.m. and 5:00 p.m. over a period of five days. Subjects picked a time slot and date prior to the interview. Subjects were told how useful and valuable their information would be. Time was taken to explain the aims and background of the research in terms which the subjects were likely to understand. An explanation was given as to what would happen to the information once it was in the researcher’s care and it was emphasised that all information was protected by a confidentiality rule.

5.6. *THE SELECTION OF MEDIA AND TECHNIQUES*

Since this research focusses largely on the adolescent and Ecstasy use, media and techniques were selected which would facilitate an understanding of the nature of Ecstasy use and which would indicate whether similarities do in fact exist amongst takers.

5.6.1. *Case Studies*

The information collected in each case study constituted descriptions of psychological processes, events and of the contexts in which they occurred (Dyer 1993:48). Although quantitative data was also collected, the main emphasis in the case study was always on the construction of verbal descriptions of behaviour or experience. Case studies combined both objective and subjective data. Alongside the objective description of behaviour (drug taking) and its context (Raves), the case study equally included details of the subjective aspect, such as drug effects, feelings, beliefs, impressions or explanations. All were regarded as valid data

for analysis and as a basis for drawing inferences within the case study. The case study was uniquely able to offer a means of achieving an in depth understanding of the behaviour and the experience of a single individual (Dyer 1993:49).

Strictly speaking then, the term “case study” refers to the results of the research, rather than to any specific method of data gathering. However, the focus on the individual, and the aim of including experience as well as behaviour within the scope of the inquiry lead naturally to the interview as the main method of gathering data. This is not to say that interviewing was the only method available for collecting information for a case study. The interview data in this study was supplemented by additional information obtained from standardized tests.

A random selection of ten subjects out of the initial fifty subjects was used for the case studies.

5.6.2. *Questionnaires*

A questionnaire regarding recreational Ecstasy use was constructed based on the literature review and using Solowij, Hall and Lee’s (1992) Sydney study as a guideline. (*See appendix for copy of questionnaire*). The questionnaires were in order to ascertain the mode and context of MDMA use. Additionally, the questionnaires explored the subjective effects of Ecstasy, probed the issues of tolerance and problematic use and determined why people “rave”. The questionnaires were piloted to test how long it took the respondents to answer them, to check that all questions were clear and to allow the researcher to remove any items which did not yield usable data (Bell 1997:84).

5.6.3. *Interviews*

It was decided to administer the questionnaire regarding recreational Ecstasy use as a structured interview since views from respondents could be followed up, responses probed and motives and feelings investigated - something which the questionnaire on its own could not do. Moser and Kalton (1971:271) describe the structured interview as “a conversation between interviewer and respondent with the purpose of eliciting certain information from the respondent.” The structured interview in the present study took the form of a questionnaire that was completed by the interviewer rather than by the respondent. The above format allowed the researcher to mark responses and jot down any interesting comments provided by

the subject. It saved a great deal of time at the analysis stage and the researcher could be certain that all topics were covered.

5.6.4. *Standardized Tests*

The following standardized tests were used:

1. 16 PF personality questionnaire
2. Values scales
3. Adolescent self concept scale
4. Personal identity scales

The main purpose of each test was to assess the developmental status of various aspects of MDMA users' personality, namely their self concept, values and sense of identity. From these tests a profile for the MDMA user could be established.

5.6.4.1. *16PF- Personality questionnaire*

It is evident that although personality theories relate to human behaviour, and individual behaviour is unique, certain shared principles do exist. According to Eysenck (1953) and Allport (1957), personality may be described as "the more or less stable and permanent organisation and integration of cognitive, conative, affective and somatic behavioural aspects that determine the individual's unique adjustment to his environment" (in Smit 1996:261). This perspective underlines the dynamic as well as behavioural aspects of typical conduct.

Smit (1996:261) maintains that an individual's conduct in a particular situation can be seen as "a function of the nature of the situation and the person's temporal, physical and psychic state, but above all, of his permanent characteristic qualities (aptitudes, habits and general disposition) what are known as his personality traits." Smit (1996:261) defines a personality trait as "...a constellation of covariable functional behaviour patterns which are provoked by particular equivalent stimuli situations. Personality traits as such are not directly observable but are arrived at through deductive reasoning." For example, someone who buys Ecstasy (drugs) from an unknown source at Raves can be regarded as a person who takes risks. He is not certain that what he is going to ingest is MDMA but consumes the drug anyway. Risk-taking is therefore a construct which is devised to explain the individual's drug taking

behaviour. A personality trait is therefore a tendency in an individual to behave in a particular way under a specific set of circumstances.

If it is accepted that certain general dispositions or constructs exist, then the measurement of personality is directed towards the determination of the individual's position in relation to particular constructs. In norm-oriented tests, this is done by comparing the individual with norms which have been arrived at from other individuals in similar standard circumstances. If it is also accepted that the individual's position is relatively consistent on such a dimensional continuum on different occasions, the focus falls on the development of valid measuring instruments which can measure these underlying personality traits (Smit 1996:262).

In the terminology of psychometric testing, personality tests refer mostly to characteristic qualities or constructs such as emotional adjustment, interpersonal relationships, motivation, attitudes and interests. If on the basis of the responses in a particular test, a derivation is made with regard to the intensity of a particular personality trait, certain suppositions can be made concerning a particular individual and his personality in general. In other words, a personality trait is deduced from the response pattern. These deductions are made from certain suppositions about the individual (Smit 1996:262).

According to Taljaard (in Smit 1996:262) personality tests measure personality traits with such a degree of accuracy that specific and relatively reliable deductions can be made about human functioning. Taljaard (in Smit 1996:289) makes the following observations about the 16-PF as a research instrument: "Since the 16-PF covers the major dimensions of personality, and because the basic personality of people plays a role in behaviour in virtually every thinkable area of life, the 16-PF is the obvious instrument for basic research on a variety of areas which can stretch from questions about personality determinants of labour turnover to problems besetting youth such as drug abuse and campus revolts."

With reference to the utility of the 16-PF, Prinsloo (1989:02) asserts that the purpose of the 16-PF is "to make personality descriptions and behavioural predictions about the testee with a set of selected structured items on the basis of his providing specific patterns of responses on a set of 16 first order and five or more second-order factors." (Translated in Smit 1996:280).

The 16 personality traits measured by the 16PF are given in Table 5.1. These personality dimensions will be discussed in more detail in chapter 6.

TABLE 5.1: Components of the 16-PF

Low score (Sten score: 1-3)	First order factors	High score (Sten score: 8-10)
Reservation	A	Warmheartedness
Less intelligent	B	More intelligent
Emotional instability/Lower ego strength	C	Emotional stability/Higher ego strength
Submissiveness	E	Dominance
Sober	F	Carefree
Weaker super-ego strength	G	Stronger super-ego strength
Shyness	H	Social presumption
Unyielding	I	Emotionally sensitive
Security	L	Mistrust
Practical	M	Imaginative/ Unconventional
Artlessness	N	Shrewdness
Poise	O	Guilt prone/ Apprehensiveness
Conservatism	Q1	Radicalism
Group dependence	Q2	Self-sufficiency
Lower-self concept	Q3	Higher self-sentiment
Lower impulse level	Q4	Higher impulse level
Introversion	QI	Extraversion
Low anxiety (adjustment)	QII	Anxiety
Tenderminded emotionality	QIII	Tough poise
Subduedness	QIV	Independence
Low compulsivity	QVIII	Compulsivity

5.6.4.2. *Values Scales*

The Cassell Compact dictionary (1998:1215) defines values as “moral principles, standards or beliefs; those things which a person or group sets for the achievement of goodness or excellence in any sphere of life.” Moral development is a central aspect of the adolescent’s overall development. It bears on both the conative and the cognitive aspects of the adolescent’s development and is influenced by his progress towards independence and identity. Social and environmental factors also exercise a major influence on the adolescent’s moral development. Daily, the adolescent is faced with a variety of situations. He has to make a growing number of self-reliant decisions and bear the consequences of such decisions. He also has to judge whether his decisions were right or wrong. Conscience is a person’s inherent

ability to distinguish between right and wrong (Gouws & Kruger 1994:174) and serves as a benchmark for the adolescent's founding of a personal value system.

As previously discussed (in Chapter 2), modern society is very diverse and values are variable and relative. The responsibility rests on the individual to direct his behaviour in agreement with values of his own choice. This responsibility can produce problems for the adolescent because he is confronted by a bewildering variety of values without guidelines or rules to help him decide which of these to accept and which not to (Gouws & Kruger 1994:187).

The peer group is a critical determinant in the development of a value system. Since acceptance by the peer group is essential for the adolescent, he conforms with the standards and limits for admissible behaviour set by the group. According to Rice (1984:486) adolescents who are surrounded by deviant moral values may become delinquent because of their environment. Such delinquency has its origin in the values represented by the surrounding subculture. The adolescent's religious disposition also influences his value system and behaviour (Gouws & Kruger 1994:191). Thom (1990:431) notes that, premarital sexual intercourse and drug and alcohol abuse are less prevalent among religious youth than among their irreligious peers. As adolescents become adults (late adolescence), they become increasingly aware of forming an own value system and hence start to question existing values in order to arrive at an independent philosophy of life (Rice 1984:488).

According to Langley, du Toit and Herbst (1992:01) the qualities measured by the Values Scale (VS) can better be described as needs. However, to prevent certain testees from experiencing the questionnaire as a threat, the term values is preferred. Super (in Langley, du Toit & Herbst 1992:02) postulates that "... values are objectives that one seeks to attain to satisfy a need." The VS was developed to measure an individual's needs for each of the following constructs: ability utilization, achievement, advancement, aesthetics, altruism, authority, autonomy, creativity, cultural identity, economic rewards, economic security, own life style, personal development, physical activities, physical prowess, prestige, risk, social interaction, social relations, spirituality, variety and agreeable working conditions.

In order to form a better understanding of the constructs underlying the needs, a component analysis was performed resulting in the identification of the following six factors (Langley, du

Toit & Herbst 1993:16): Inner oriented needs (focus on intrinsic needs), material needs (focus on extrinsic needs), autonomous lifestyle, humanism and religions, social needs and physical needs.

The Value Scales (VS) is intended for use in the individual guidance of high school pupils, students and adults, group evaluation, career development programmes and in needs surveys. The objective of the VS is twofold - namely to understand the needs that individuals experience and satisfy in various life roles and to assess the relative importance of the work role as a means of needs satisfaction in the context of other life roles (Langley, du Toit & Herbst 1992:01). For the purpose of this study however, job satisfaction is not the area of focus. Nevertheless, there are certain needs/values measured in this test which are of relevance. (*See appendix III for list of values*).

It is important to distinguish between values, attitudes and interests as these are concepts which are easily confused with one another. Attitudes relate to feelings in respect of social objects (for example personality types and social matters) while interests are more related to specific activities. Values and needs on the other hand usually have a bearing on preferences for ideals and lifestyles (Langley, du Toit & Herbst 1993:02). According to Katz (1983:17), "...values represent feelings and judgement about outcomes or results, such as importance, purpose or worth of an activity. Interests apply to the differentiated means by which the valued goal may be reached."

5.6.4.3 *Adolescent Self- Concept Scale (ASCS)*

Knowledge about a person's self concept has practical value, since there is clear evidence that it relates to personality disorders and behavioural problems and to excellent achievement and perseverance (Vrey & Venter 1983:01). The self concept is of crucial importance to a person, both in his psychological existence and in his relationships with others. According to Purkey (1970:12) the self concept as a frame of reference, as a basis for evaluation and as a method of associating with others emphasizes the attitudinal aspect, namely its inclination towards stable patterns of action and behaviour. What someone believes about himself can determine whether he is psychologically balanced or unbalanced.

The self concept is the culmination of what one perceives to be one's personal characteristics, that is, the kind of person one believes himself or herself to be, and may be either positive or negative. Vrey and Venter (1983:03) state that the self concept is the criterion that is consulted, either consciously or unconsciously, in self perception, in psychological experiences and also in the formation of relationships. Consequently the self concept co-determines the quality of relationships. Self concept presumes a conscious understanding of the self. That of which a person is or can be made aware, can be viewed as the dimensions of the self-concept. The dimensions in turn, constitute the structure of the self concept. In integrated form they represent the total extent of the self concept (Vrey & Venter 1983:03).

Each dimension of the self-concept in the Adolescent Self Concept Scale (ASCS) is compiled in terms of self-identity, acceptance of the self with which one has identified and one's perception of one's behaviour or personal conduct (Vrey & Venter 1983:03). The structure of the scale consists of the following constructs:

1. the physical self - the self in relation to physical aspects
2. the personal self - the self in its own psychological relationships
3. the family self - the self in family relationships
4. the social self - the self in social relationships
5. the moral-ethical self - the self in relation to moral and religious norms
6. self criticism

This implies that the total person is involved in the development of his self concept. As discussed previously (in chapter 2), the self concept is dynamic and develops cognitively and affectively as a result of the individual's experiences in life. The self concept can therefore not be seen as an isolated component of the individual's life. It is integrated with everything that happens to a person throughout his life. It is therefore also integrated with his self, which is the unique view that every one has of himself and his world (Raath & Jacobs 1993:15).

Self analysis and self criticism intensify during adolescence when adolescents struggle with the question: "Who am I?" and continuously measure themselves against the norms and values of society. The standards of friends and of the peer group become a particularly important test for self appraisal (Gouws & Kruger 1994:06). The relative importance of these elements may differ from one person to another but the whole is always affected by the evaluation of specific

parts. Fluctuating circumstances and other people's reactions influence the maintenance and change of a person's self concept (Gouws & Kruger 1994:06).

The ASCS generates separate scores for how individuals feel about themselves in the family and the physical, social, moral and personal parts of their lives. Although identifying specific areas of self-concept may provide researchers with additional insight into a person's feelings about himself or herself, researchers typically assess a person's overall self-concept or global self concept (Burger 1993:362). How we feel about ourselves is a central concern of educators, parents, psychologists and ministers. It will be easier to understand a person, if one knows what image he has of himself.

The significance of the self-concept for the development of a person and his personality underlines the relevance of examining the self-concept. The self concept is the criterion whereby the individual differentiates, attributes meanings, evaluates, anticipates and behaves (Vrey 1979:95). Unrealistic self evaluations indicate the need for the presence of an adult who can assist the adolescent. The support and guidance of educators are indispensable means of discovering meaning and of helping adolescents to form a positive self-concept (Vrey 1979:48).

5.6.4.4. *Sense of personal identity scale*

Identity can be described as the value attached by a person to himself and therefore answers the question: "Who am I?". Identification takes place when a person perceives himself in accordance with others and acts accordingly (Murphy 1966 in Vrey 1979:45). Interaction with other persons in his life helps him to become familiar with himself as a son, a friend and a raver, for example. The concept of identity is not simple but multifaceted, since just as many aspects of the self are distinguishable as there are identities (Kruger 1992:20).

According to Erik Erikson (in Burger 1993:128), most teenagers and young adults struggle to form a sense of personal identity. As with the other stages of development how well you resolve this crisis sets the pattern for future personality development and adjustment. Ochse and Plug (1986) developed a scale to measure the extent to which adults have passed through each of Erikson's eight stages of development. Ochse and Plug (1986) found average scores for this scale between 56 and 58 when they administered it to South African citizens between

the ages of 15 and 60. The standard deviation for this score was between seven and eight indicating that the majority of people obtain scores that fall within the seven or eight points of these average scores. Scores considerably higher than this indicate a particularly well developed sense of identity, whereas significantly lower scores suggest the individual is still progressing through the identity development stage (in Burger 1993:129). (*See appendix IV for a copy of personal identity scales*).

Although identity formation usually reaches a plateau of stability after adolescence, Erikson maintains that it never really stops (Raath & Jacobs 1990:11). Vrey (1979:45) puts it as follows: "The formation of a self identity is a life long task. The individual and his society are largely unaware of this process... The important point is this: with educational support an own identity gradually takes shape: it is accepted by others and a certain dignity is assigned to it. When this happens, the person becomes someone."

5.7. EVALUATION

5.7.1. Questionnaires

It was decided to convert the questionnaire scores to percentages as percentages are easily calculated and understood. The percentages were based on the number of acceptable responses that the relevant groups had given. The relevant groups comprised either "all respondents", "multiple time" Ecstasy users or "one to three time" Ecstasy users. In this instance, the percentage is therefore an indication of the group's responses pertaining to a particular question.

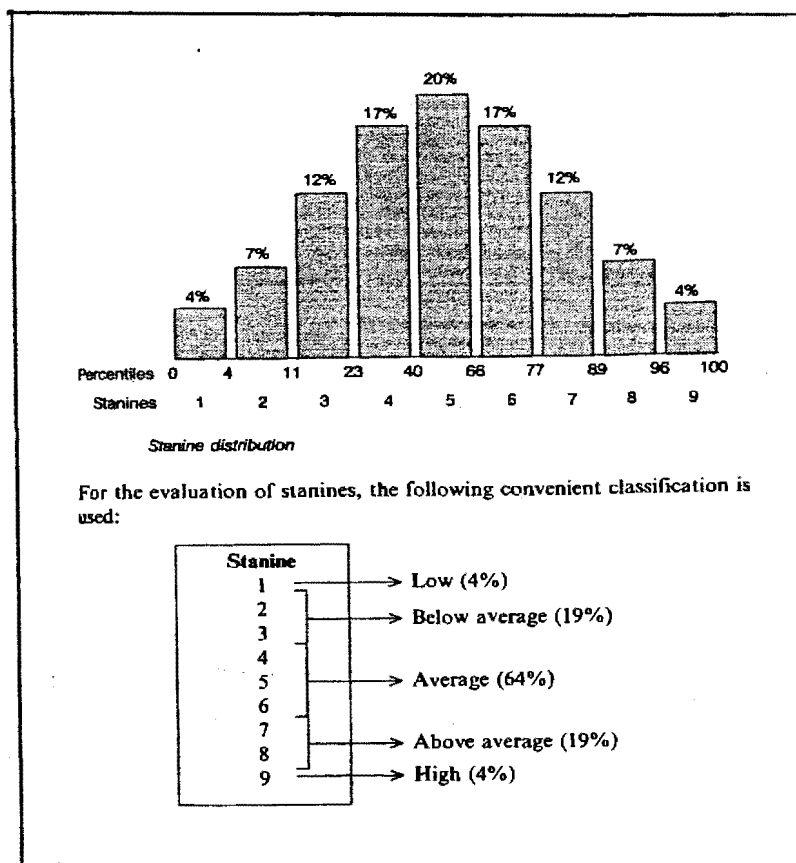
5.7.2. Standardized Tests

Raw scores, that is the unprocessed scores obtained in the tests, are by themselves meaningless, insofar as they do not make valid comparisons between individuals and between tests possible (Smit 1996:101). In the interpretation of psychological test results, norms are used. The norms for interpreting test results are empirically defined by determining the performance of a representative sample in the test. Individual performance is then evaluated against the representative performance. A norm can thus be defined as the measure against which the individual's raw score is evaluated and by which the individual's relative position can be determined in relation to that of the normative sample (Smit 1996:102).

To determine the individual's position more precisely in relation to the normative sample's performance, raw scores are statistically manipulated into transformed scores. Such a calculated transformed score has specific advantages (Smit 1996:102):

1. It indicates the individual's position in relation to the normative sample and the individual's performance can then be evaluated in comparison to that of another person.
2. It yields a basis for comparison of individuals' performance in different tests.

Since stanines are increasingly being used, it was decided to convert most of the raw scores into stanines. However in the case of the 16-PF, raw scores were converted into stens. Stanines are normally distributed raw scores between one (low) and nine (high), with an average of 5,0 and deviation of 1,96 (two) (Smit 1996:114). The percentage of the cases of total distribution falling into each of the nine stanine classifications for the normal distribution curve are given in figure 5.1. (See figure 5.1).

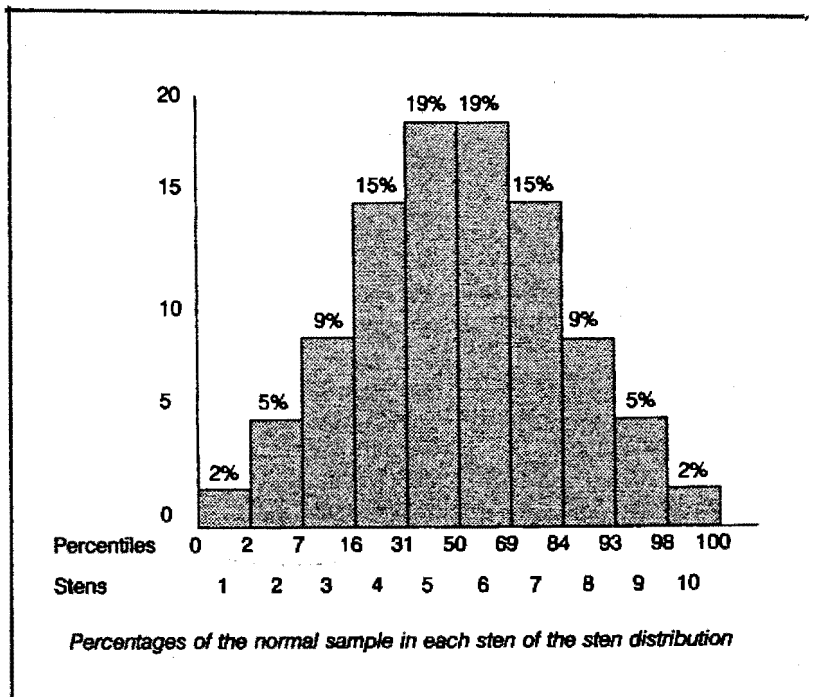


The advantages of a stanine scale are as follows (Smit 1996:115-116):

The equality of scale units is a great advantage. For example, a stanine of 7 is just so much better than one of 5, as a stanine of 4 is better than one of 2. Because of this, performances in various tests or subtests can reflect the relative intensity of performances more accurately. Stanines indicate almost automatically the individual's position in relation to the normative

sample. They can be calculated in all circumstances where it is possible to place performances in rank order. The only presupposition is that the prerequisite of a normal distribution should be more or less adhered to. Stanines obtained for a particular distribution are comparable with any other set of stanines obtained for the same normative group. Finally, stanines allow statistical manipulation of information without any loss of refinement and accuracy and are very handy in the counselling situation for interpreting test results to clients as well as to their parents. The risk of attaching too much significance to small deviations is thus limited (Smit 1996:115-116).

The rationale on which sten scores rests is similar to that of the stanine scale except that it consists of 10 scale units. Sten scores can also be viewed as normalised standard scores, with an average of 5,5 and a standard deviation of 2,0. The same advantages attached to the use of stanine scores hold good for sten scores (Smit 1996:116). The percentages of the total distribution falling into each of the ten sten classifications for the normal distributions are presented in figure 5.2:



Following the conversion of the raw scores to stanines or stens, profiles of the ten subjects were drawn up and compared. Profiles (also known as psychographs or psychograms) are basically graphic versions of conversion or norm tables. Profiles can be seen as a convenient way of presenting the obtained test results meaningfully and are excellent methods for:

- obtaining a global impression of the individual protocol
- comparing the same individual in relation to a number of measurements

- comparing two or more individuals in relation to the same measurements
- comparing one individual with different groups (Smit 1996:122).

5.8 SEQUENCE OF RESEARCH

The research follows the sequence as outlined above, that is:

1. literature review
2. construction of questionnaires
3. random selection of subjects
4. structured interviews
5. standardized tests
6. analysis of data

5.9 CONCLUSION

In order to draw inferences about the nature of Ecstasy use and its users, the hypotheses were tested. If the majority of the null hypotheses can be rejected, then the hypotheses initially stated, are most certainly tenable.

The findings of this research will subsequently be recorded in the following two chapters.

CHAPTER SIX
FINDINGS OF QUESTIONNAIRES ON RECREATIONAL ECSTASY USE
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Source: McFadyean (1997: 90)

6.1. INTRODUCTION

This study is primarily aimed at investigating the nature of Ecstasy (MDMA) use in Durban with a view to determining the mode and context of the drug's use and the characteristics of the users. Furthermore, this research investigates and records the subjective effects of Ecstasy including the primary psychological and physical effects, side effects and residual effects and explores the issues of tolerance and dependence versus problematic recreational use. Since the empirical investigation focusses largely on the adolescent and Ecstasy use, media and techniques were selected which would facilitate an understanding of the nature of the drug's use and which would indicate whether similarities do in fact exist amongst takers. The fifty subjects, consisting of both male and female sexes in late adolescence, were recruited from various Rave clubs in Durban. Constructed questionnaires regarding the recreational use of Ecstasy were administered as structured interviews. Out of the initial fifty subjects, ten subjects were randomly selected for the case studies. The interview data for the case studies was supplemented by additional information obtained from standardized tests. These tests comprised the 16PF personality questionnaire, values scales, adolescents self concept scales and personal identity scales respectively.

The present chapter concerns itself predominantly with the findings of the questionnaires regarding recreational Ecstasy use. (*See appendix V for a copy of the questionnaire*). The case studies will subsequently be presented in the following chapter.

6.2. The Sample

The sample consisted of 50 subjects mainly from the inner city: 29 males and 21 females, ranging in age from 15 - 26 with a mean age of 21.22 (SD = 3.03). At the time of data collection, 38% of the sample were employed full time, 4% were unemployed, 44% were students and 14% were scholars. The white ethnic group predominated.

As a result of the fact that the subjects were permitted to select more than one response applicable to the given questions in the questionnaire, the reader should bear in mind that the calculated percentages do not always add up to one hundred.

6.2.1. Ecstasy use

82% of the sample had used Ecstasy more than three times and will be termed “Multiple time users”, consisting of 26 males and 15 females, aged 16 - 26 with a mean age of 21.8 (SD = 2.35). 18% of the sample had used Ecstasy three times or less and will be termed “One to three time users”, consisting of 3 males and 6 females, aged 15 - 22, with a mean age of 18.55 (SD = 2.36). The average reported age at which Ecstasy was tried for the first time was 18.86 (SD = 1.97, range 11). The longest duration of use was 7 years.

6.3. General findings

6.3.1. Reasons for trying Ecstasy

The most frequently reported reasons for trying Ecstasy were experimentation (to see what it was all about), peer pressure (all my friends do) and for “fun” and recreational purposes. 14% of the sample tried Ecstasy as an escape from problems and others as a result of not feeling good about themselves or feeling spiritually empty. Additional reasons included sociability and risk, “because it is illegal”. Two subjects tried Ecstasy as an alternative to drunken driving in response to the zero tolerance campaign. (*See figure 6.1*).

6.3.2. Method of introduction to the drug

The most common method of introduction was being offered it by a friend. Fourteen percent of the sample were offered it by a drug dealer whilst some (12%) were offered it by a family member, that is a sibling or a cousin. Others went out and found it themselves commenting on the easy availability of the drug at nightclubs, Raves, bars, restaurants and even in schools. Ecstasy appeared to be obtainable almost anywhere.

6.3.3. Ability to have fun without Ecstasy

Although 78% of the respondents believed they were able to go out to a nightclub or a Rave and have fun without taking Ecstasy, the remaining twenty-two percent believed the dance scene to be drug orientated. For them, Ecstasy provided the energy to keep going and gave the music and visual effects clarity. Subjects referred to a Rave as a false reality; an escape from everyday life for a few hours. In a similar manner, respondents alluded to drugs as an escape, hence the Rave and Ecstasy synergy. One subject commented that a large part of the peaceful vibe at the Rave is created by Ecstasy and if people were not on Ecstasy it simply would not be the same.

Figure 6.1:

The most frequently reported reasons for trying Ecstasy

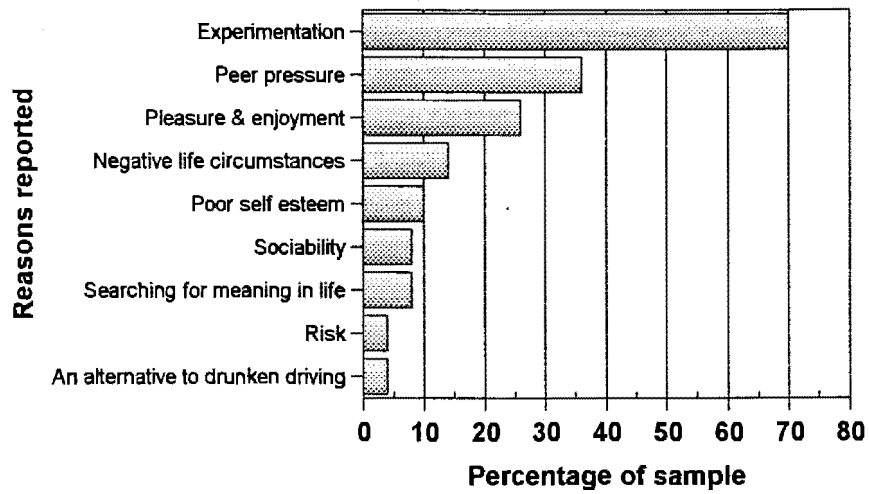
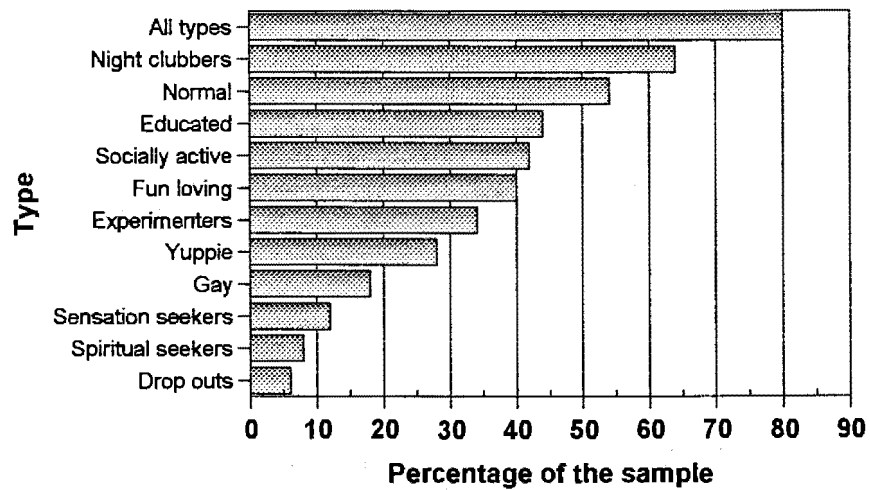


Figure 6.2:

Types of people who are more likely to take Ecstasy



6.3.4. *Types of people who are more likely to take Ecstasy*

Subjects were given a checklist and asked to state which type of people were more likely to use Ecstasy. Eighty percent reported users to be all types of people, of all ages from all walks of life. The most frequently reported types were “night clubbers” (64%), “normal” people (54%) and “reasonably educated” people (44%). This was followed by “socially active” (42%), “fun loving” (40%) people. “Experimenters” were reported by 34% of the sample. There was also an association with the “yuppie” scene (28%) and the gay (homosexual) community (18%). “Sensation” and “spiritual” seekers were mentioned by twelve and eight percent of the respondents respectively. Three subjects proffered “drop outs” as the final type. (See figure 6.2).

6.3.5. *Word associations linked to Ecstasy*

When asked directly what sort of words they associate with Ecstasy, responses grouped largely into the following two types: (1) fun, party, energy, freedom and (2) peace, closeness, happiness, love. (See figure 6.3). When asked to rate how “hard” a drug Ecstasy is perceived to be on a scale of 0 -10 where marijuana was placed at 1 and heroin at 10, the mean response was 4.86 (SD = 2.27).

6.3.6. *A subjective evaluation of Ecstasy based on the testees’ personal experience.*

6.3.6.1. *The evaluation of “one to three time users”*

The “one to three time” users of this study present largely as a group of experimental and occasional recreational drug users. They either tried Ecstasy and found that it did not live up to their expectations or they have not had an opportunity on which to take Ecstasy again. 78% of this group said that they would use Ecstasy again if it were offered to them, as they had found their experience to be “fun” and pleasurable. Twenty two percent (22%) claimed that they had found the experience overrated, “boring”, not living up to their expectations and not worth the money. Eleven percent described the experience as unpleasant. One subject specified adverse reactions such as vomiting, anxiety, panic attacks and paranoia together with a number of side effects such as jaw clenching, bruxism (grinding of teeth), dehydration and hot and cold flushes. These episodes were not reported as prolonged but only for the duration of the active effects of the ingredients of the tablet. Hayner and Mc Kinney (1986:345) assert the possibility that some users will experience idiosyncratic or allergic reactions to MDMA.

Figure 6.3: A poem - associations with the word Ecstasy.

ECSTASY

Calm, peaceful, pure bliss. Worry free. Fun, smiles,
freedom of expression. Confidence. Love,
togetherness, touching, sensual, warmth,
friendship. Euphoria, relaxation, positivity.
Sharing. Peace, love and unity. Closeness.
Understanding. No violence. No aggression.
Equality, harmony. Happiness. Feel good.
Enlightenment. Spirituality. Illumination.
Chemical heaven. A hug from God. Oneness with
the universe. Insight. Inner peace. Good time.
Clubbing, partying and enjoyment. Rave, energy.
Annihilated, totally free. Wired, lovely, happy.
Dance. Feel the rhythm. Pill. Eighty rand.
Sorted, on one and off my face!!!

It has been suggested that a combination of individual sensitivity or susceptibility and dosage may account for the cases of adverse reactions which are severe enough to come to light. The most recent use of Ecstasy in this group ranged from one week to three years ago, with a mean of 23.2 weeks.

6.3.6.2. *The evaluation of multiple time users (those who had used Ecstasy more than three times)*

Eighty percent of the multiple time users continue to use or intend to use Ecstasy. Last use within this group ranged from one day ago to three months ago, with a mean of 2.5 weeks. The most frequently reported reasons for not using anymore by the remaining 20% of multiple time users were that they had become aware of the dangers involved in using Ecstasy, had grown out of it and that Ecstasy had lost its appeal and become "boring". Having "used it too much", financial reasons and becoming a parent were also given as reasons for not taking it any longer. Last use within this group ranged from two weeks to twelve months ago, with a mean of 5.93 months.

6.3.7. *Social aspects*

Most respondents prefer to take Ecstasy with a small group of two to four friends (78%) or with one other person only (44%). Sixteen percent preferred to take it with a large group of five or more friends. Four subjects said that they had taken it on their own in a social setting however would not take it alone at home. Raves were reported to be the most popular venues for taking Ecstasy (90%), followed by nightclubs (88%) and private parties (40%). Another frequently reported place for taking Ecstasy was at home (36%) while spending an evening with close friends rather than going out. It was also used for spending an evening with one's partner, specifically for the intimacy and emotional effects that it has. Twelve percent (12%) also used Ecstasy out in nature, mainly on the beach. The idea that MDMA enhances both social and introspective or intimate relations is reflected by and can be inferred from the context in which it is used. These data reflect the dual nature of Ecstasy. On the one hand it is a stimulant energiser which acts as a social enhancer. On the other hand it has the introspective, emotional and spiritually arousing effects (Solwijn et al 1992:1165).

6.3.7.1. *Reasons for Rave participation and significance of Raves*

When asked what their reasons were for participating in Raves, most respondents alluded to dancing, the music and visual effects. Drug taking was mentioned by forty-six percent of the sample. Rave participation as a stress release or an escape from problems or reality was cited by 44% and 42% respectively. Additional reasons included meeting people (30%) or simply to be in with the crowd (16%). Having a good time and the fact that their friends attended were cited by small proportions of the sample. One respondent specified dealing drugs as his motivation for Rave attendance. (*See figure 6.4*). For many subjects Raves signified a shared collective experience (54%), a big party (50%) and a sense of belonging or fitting in (42%). PLUR, acceptance and spirituality were also nominated. (*See figure 6.5*).

6.3.7.2. *Reported times for taking Ecstasy*

The most popularly reported times for taking Ecstasy were on weekends (96%), usually in the late evening (90%), preferably if one did not have to study or go to work the next day. Twenty four percent had used Ecstasy in the day. This data supports the idea of Ecstasy as a social drug but also one which requires time for recovery.

6.3.8. *Frequency of use*

It appears that the present rate of consumption of multiple time users is as follows: 34% use Ecstasy once a month followed by 19.5% who use the drug more frequently, that is once a week. 17% use it less often, that is every three months. 9.75% use it fortnightly and a further 9.75% on special occasions. Two subjects reported using every few days. 7.3% allege that their frequency of use varied depending on the occurrence of organised Raves and their cash flow. Hayner and McKinney (1986:345) report that the unpleasant side effects are experienced more readily following repeated doses, particularly within a few days of each other. There seems to be a point at which the unpleasant side effects increase to the extent where they outweigh the pleasurable effects originally sought by users of the drug. Because of this, users report that they usually use MDMA once every several weeks (Elk 1996:353). The present Ecstasy consumption rate by multiple time users is presented graphically in figure 6.6.

Most subjects reported their highest rate of consumption to have been once a week (51%) followed by every few days (26.8%). One subject reported initially using Ecstasy every day because it was freely available. (*See figure 6.7*).

Figure 6.4:

Reported reasons for participating in Raves

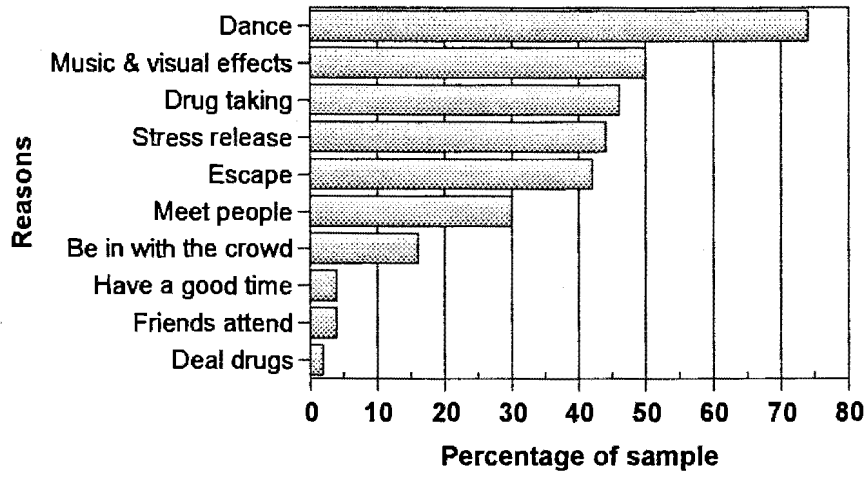


Figure 6.5:

The meaning of Raves to participants

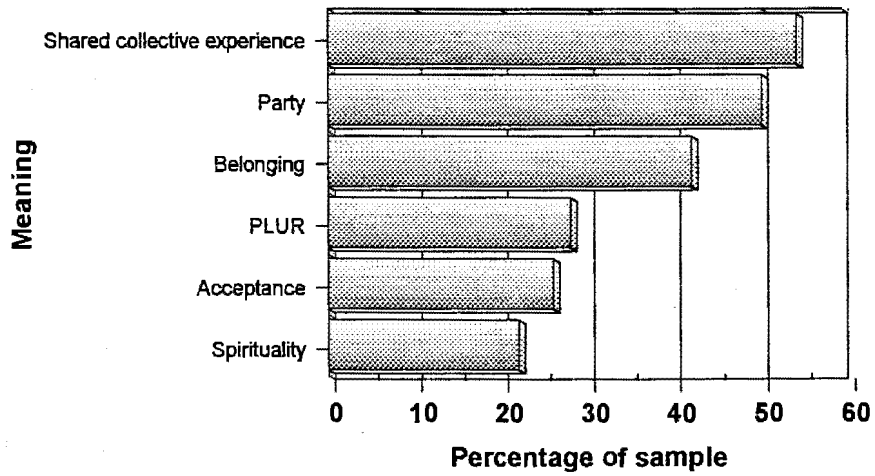


Figure 6.6:

Present consumption rate

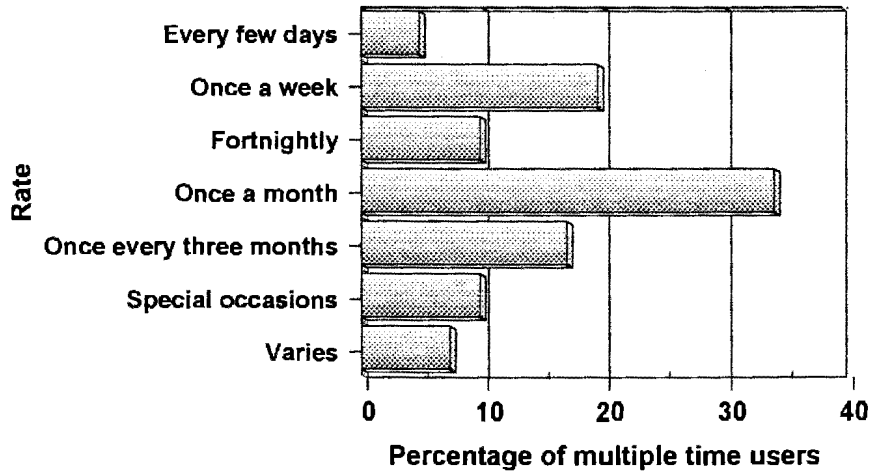
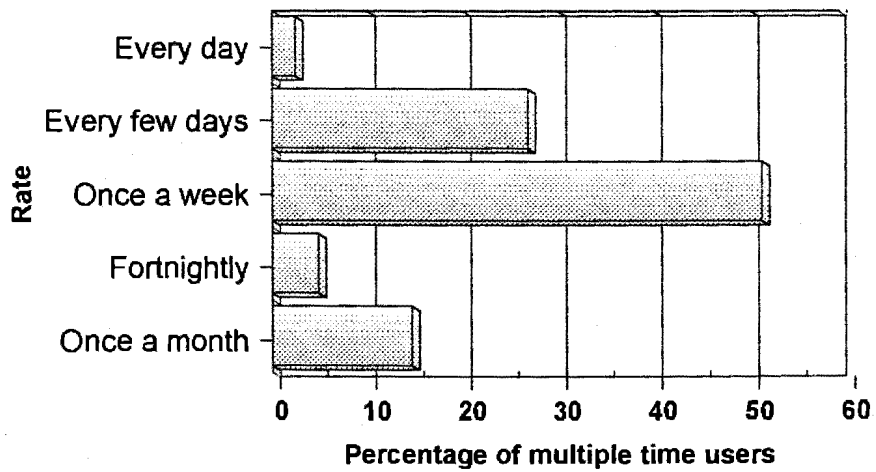


Figure 6.7:

Highest consumption rate



6.3.8.1. *Pattern of use*

Many respondents (48.7%) claim that their pattern of use since they first tried Ecstasy has decreased (following an initial increase) over time. 21.95% claim that it has increased, 19.5% report no change over time and the remaining 9.75% claim that their pattern of use varies or goes through cycles depending on their cash flow, frequency of Raves and their personal preferences to do so. A number of subjects commented on experiencing the strongest effects the first time they ever tried Ecstasy.

6.3.9. *Dosage and mode of use*

Tablets were notably the most frequently reported form of Ecstasy available followed by capsules. Powder is usually swallowed in a capsule to avoid the bitter taste but it can be dissolved in a drink. Ecstasy in powdered form was also available as a result of the tablet having been crushed. It was not usually bought that way. Ecstasy was generally swallowed, but "snorting" and suppositories were also reported as methods by a small proportion of the sample. Two subjects had smoked Ecstasy with marijuana in a joint.

The effects of one dose or tablet were reported to last anywhere between two and twelve hours, mean duration of 5.3 hours. This is strikingly similar to Solowij et al's (1992:1165) finding of between one and twelve hours. Although unverified in this study, most of the literature reports an average tablet to contain 80 -120 mg of MDMA. Most of the sample (38%) reported usually taking only one pill per occasion while six percent took less than one. Twenty eight percent took two pills, fourteen percent took three and twelve percent took more than three pills per occasion. One subject reported one and a half tablets as being her usual dose. The least quantity tried by respondents was half a tablet. (*See figure 6.8*). The maximum number of tablets reported as the *usual* dose per occasion was 10. According to Ricaurte (1993 in Doblin 1995:06) when MDMA exposure approaches seven to eight doses a night "one could be inviting problems" regarding neurotoxicity.

6.3.9.1. *Effects of taking larger doses*

Eighty percent of multiple time users noticed a difference in the effects of Ecstasy when taking larger doses than usual. The effect of taking larger doses was reported as generally more hallucinatory (41%) with increased side effects. It was longer lasting and more intense (76%), with a stronger rush (54%). Subjects reported nystagmus (71%) (flickering or rolling back of

Figure 6.8:

Number of Ecstasy tablets consumed per occasion

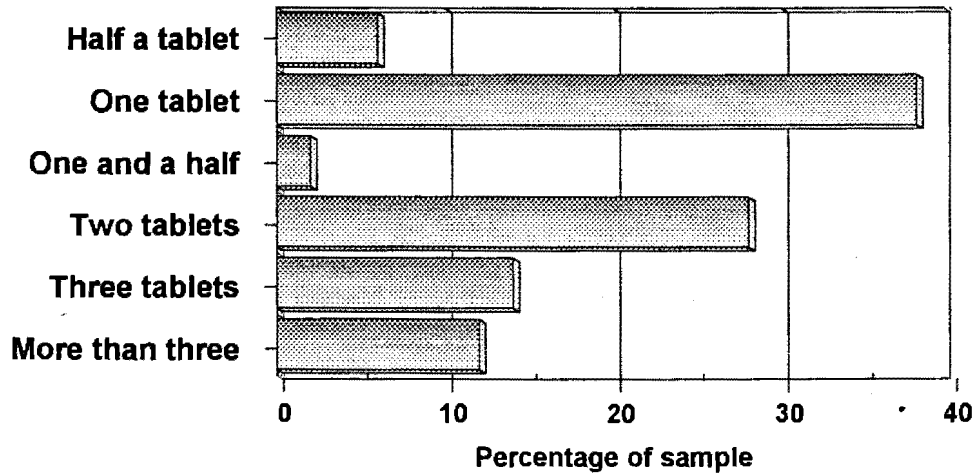
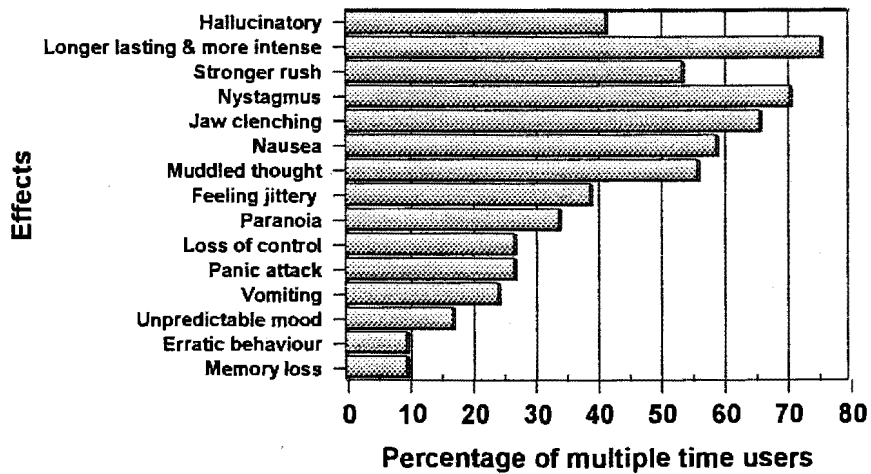


Figure 6.9:

Reported effects of taking large doses



the eyes), jaw clenching (66%), nausea (59%), muddled thought (56%), feeling jittery (39%), paranoia (34%), loss of control (27%), panic attacks (27%), vomiting (24%), unpredictable mood (17%) and erratic behaviour (10%). Memory loss was described by ten percent of the respondents who maintain they “can’t remember parts of the evening.” (See figure 6.9).

6.3.9.2. *Maximum reported doses*

Twenty two percent of the multiple time users had experimented with relatively large doses, that is 10 or more tablets on one or more occasions. Several respondents had tried between 10 and 20 tablets at a time. The maximum dose reported by any respondent was 24 tablets on one occasion, that is Saturday night at a Rave inclusive of Sunday at the after party. Jansen (1997:125) indicates that it is far more common for “problematic” Ecstasy use to involve consumption of the drug in 48 hour weekend binges with 4-5 days in between. As previously discussed, the experience of the “love effect” from Ecstasy quickly fades with repeated use and the effects become increasingly like those of amphetamine - a state of nervous restlessness or agitation. This may in part explain some of the escalation in dose levels in recent years as some users will unsuccessfully be attempting to recover the mental state which they experienced at first. However, with multiple exposure to the substance it becomes impossible due to neurochemical changes in the brain and concomitant psychological changes resulting from repeated use. Other reasons for increasing dose levels may be the considerable drop in price that has occurred because of the increased demand for Ecstasy.

6.3.9.3. *“Staggering”*

Fifty four percent of the respondents reported “staggering” the multiple doses they take by waiting until the effects of the first dose have worn off before taking the second in order to prolong the experience. Successive doses were described as being shorter lasting (73%) and less intense (31.7%) than the first dose taken on each occasion, with reduced pleasurable effects (31.7%) and increased side effects (31.7%). This may reflect the development of tachyphylaxis, that is the rapidly decreasing response to a drug after the administration of a few doses. Other subjects however seemed to find successive doses as being more intense (26.8%), longer lasting (12.9%) with increased pleasure (7.31%). This may reflect the differences in pill quality and strength.

6.3.10. Tolerance

63% of the subjects reported the need to take more Ecstasy to produce the same effects. This was equally attributed to either tolerance or the gradual decrease in the quality of pills over time. Seventy eight percent reported having noticed variations in the effects of Ecstasy over time, especially reduced pleasurable effects (68%). Many respondents alluded to the reduction of the "loved up" feeling, "less rushing" and that "pills these days aren't as good as they used to be". Once again mention was made that subsequent experiences were not quite as good as the first one. Subjects ascribed this to fluctuations in Ecstasy's purity and quality.

6.3.10.1. Factors influencing the Ecstasy experience

Respondents believed the following factors to influence the way that Ecstasy is experienced: who one is with (88%), using too often (78%), consumption of other substances (59%), where one is taking it (51%), mood (44%) and one's state of health (44%). Eisner (1989:104) uses the terms "set" and "setting." The term "set" refers to what the drug taker brings to the situation, his or her personality, past experiences (including previous drug experiences), mood, reasons, attitudes and immediate expectations. "Setting" refers to the conditions of use, including the actual environment, both physical and interpersonal, that is including the "set" of the other people present. Part of the set is obviously the reason for which the substance is taken. A pleasant set and setting is more likely to have a positive outcome, while an unpleasant set and setting more likely have a negative outcome. Although this applies less with MDMA than with many other drugs (particularly LSD), Ecstasy's effect is highly responsive to ones mood or state of mind (Saunders 1997:213).

6.3.11. Effects of Ecstasy experienced

6.3.11.1. Positive psychological and physiological effects

Positive mood state or an overall sense of well being, is perhaps the most consistent effect of Ecstasy and was reported as being experienced by 94% of the sample. This quality was also reported 94% of the time Ecstasy was taken by Australian MDMA users in Solowij et al's 1992 study (Solowij et al 1992:1166). Other positive psychological and physiological effects reported comprised the following: a feeling of intimacy (84%), enhanced auditory and sensory perception (84%), loss of appetite (80%), activation or increased energy level (74%), talkativeness or increased communication (68%), euphoria or "rush" (64%), heightened

sensuality (44%), greater emotional self insight (42%) and spiritual awareness (26%). (See figure 6.10).

6.3.11.2. Negative psychological and physiological effects

Negative psychological and physiological effects experienced by the sample include the following: an elevated heart rate (70%), jaw clenching and grinding of teeth (64%), hot and cold flushes (60%), nausea (58%), nystagmus (rolling or flickering of the eyes) (56%), sleeplessness (56%), dehydration (32%), feeling of heavy legs or “no legs” (as though some muscles resist the drug’s demand to let go) (30%), desire to urinate (24%), vomiting (18%), visual hallucinations (14%), anxiety (panic attacks) (8%), paranoia (increased self consciousness) (8%) and muscle hypertonicity (stiffness) (8%). One subject reported blindness for thirty seconds. (See graphic representation, figure 6.11).

6.3.11.3. What is liked best about Ecstasy

To a great extent these findings overlap with the positive psychological and physiological effects. Most respondents (76%) reported the positive mood state as being what they liked best about Ecstasy. This was followed by intimacy (28%), activation (energy) (18%), greater self insight (emotional) (12%), spiritual enlightenment (10%) and an increase in communication (8%). Other most enjoyed aspects reported by small proportions of the sample included the Ecstasy and music synergy, enhanced auditory and sensory perception and the “rush”.

6.3.11.4. Disliked aspects of Ecstasy

To a large extent, the findings of this subsection correspond with the negative psychological and physiological effects. The most disliked aspects of Ecstasy were its side effects (44%), after effects (36%), the “come down” (24%) and the price (22%). (See figure 6.12). A side effect is a secondary and usually an adverse or unfavourable effect of a drug. An after effect is an effect that follows its cause after an interval. It is a secondary result especially in the action of a drug, coming on after the subsidence of the drug’s effect.

Disliked side effects and after effects of Ecstasy included nausea (34%), sleeplessness (16%), mood swings (12%), nystagmus (flickering or rolling of the eyes) (8%), fatigue (8%), “mid week blues” (6%) and a general feeling of being “run down” (6%). Other disliked side effects

Figure 6.10:

Positive reported psychological and physiological effects of Ecstasy

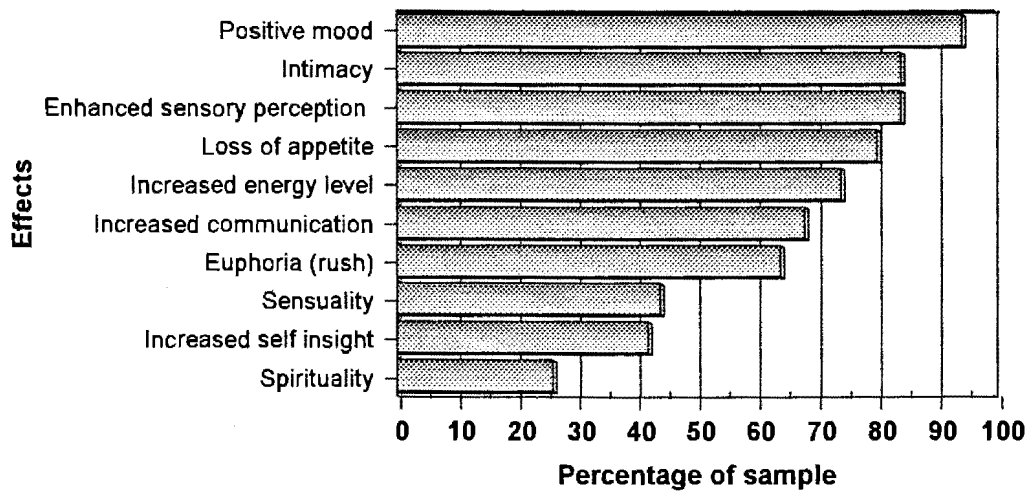


Figure 6.11:

Negative reported psychological and physiological effects of Ecstasy

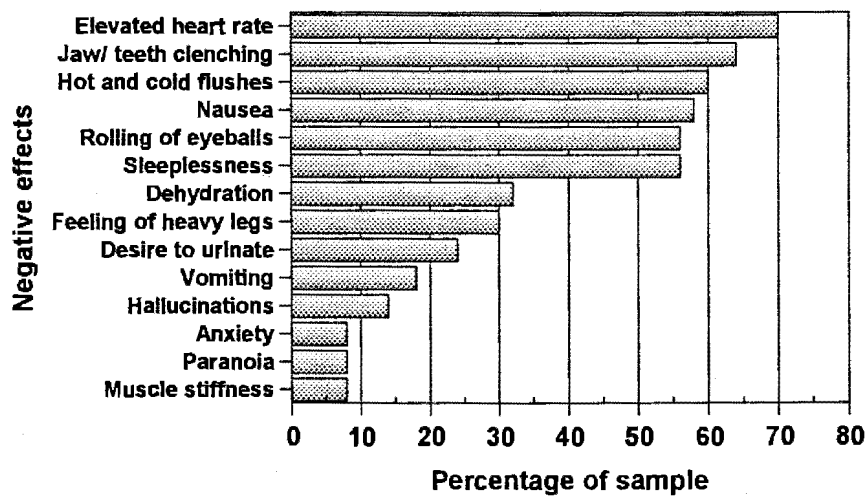


Figure 6.12:

Disliked reported aspects of Ecstasy

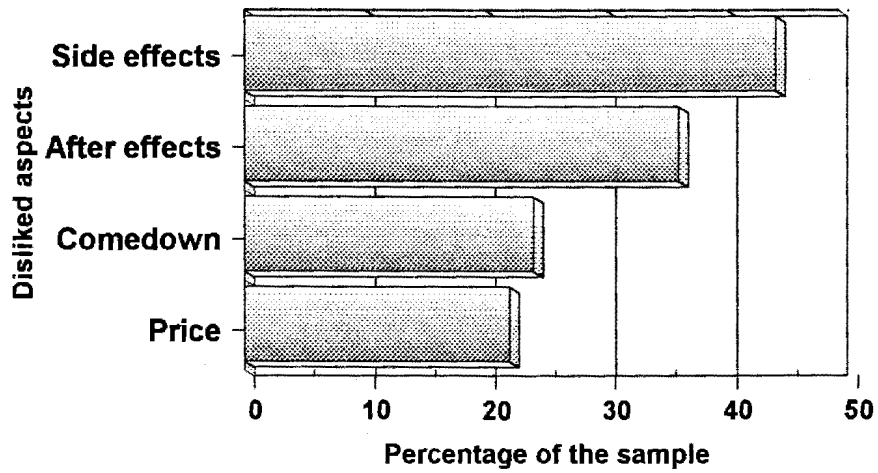
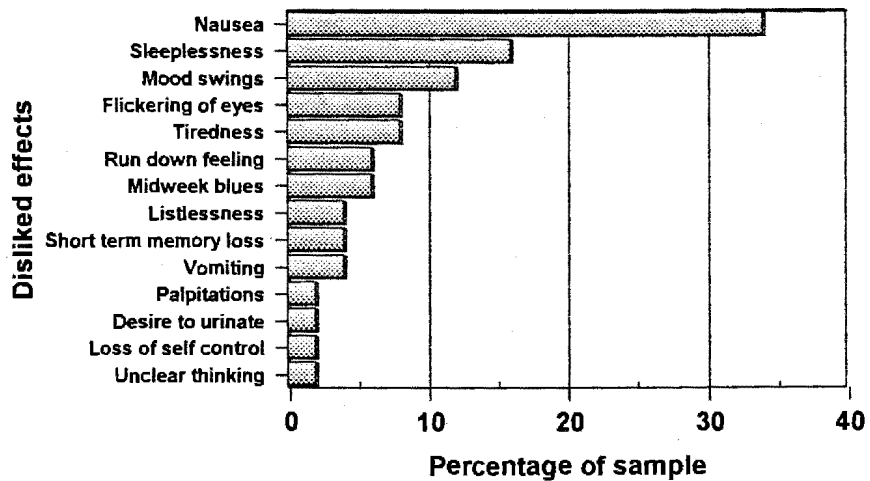


Figure 6.13:

Most disliked side and after effects of Ecstasy



and after effects reported by small proportions of the sample were listlessness, short term memory loss (an inability to remember small portions of the evening), vomiting, heart palpitations, the desire to urinate and the loss of self control. Eighteen percent (18%) of the sample claimed that there was nothing they disliked about the drug. (See figure 6.13).

6.3.12. Other drugs used by multiple time users

83% of the sample disclosed use of marijuana, 78% reported occasional use of LSD and 68% claimed to be social users of amphetamine (speed) and amyl nitrate (poppers) respectively. 66% of the respondents had used cocaine socially. 24% had experimented with diet pills, 22% with herbal Ecstasy, 17% with ketamine (an animal anaesthetic) and 10% with rohypnol. A small proportion of multiple time users had tried heroin (5%), crack (5%) and GHB (liquid Ecstasy) (5%). Only one subject had experimented with temazepam, a hypnotic. (See graph, figure 6.14). Current use was mainly defined as social or occasional use rather than regular or frequent use. Jansen (1997:116) however maintains that a very large number of regular, weekend Ecstasy users are also daily or near daily users of cannabis, which makes the “come down” and “mood cycle” less apparent. This is an important factor to bear in mind when conducting research in this area.

6.3.12.1. Concurrent drug use

In order to determine to what extent any reported effects were specific to Ecstasy itself, subjects were asked about their use of other substances in combination with Ecstasy. Seventy one percent of multiple time users had used other drugs in combination with Ecstasy, while the remaining twenty nine percent had not. Fifty nine percent drink alcohol while on Ecstasy. Alcohol was reported as deadening the effects of Ecstasy, inducing nausea and vomiting and making one feel more dehydrated or “thirsty”. Forty one percent have used it with marijuana and reported it as both a “pick me up” and “bring me down”. Many respondents smoke marijuana on the “coming down” phase of the experience, either in an attempt to prolong the “high” or to try and counteract the stimulant properties and overcome sleeplessness. Thirty nine percent have used amyl nitrate (poppers) while on Ecstasy for an increased or stronger “head rush”. Thirty two percent used cocaine which was reported to neutralise the effects of Ecstasy, and LSD (acid) which respondents claim gave Ecstasy more of a “spiritual” or “trancey” feel and increased energy and hallucinogenic properties. The combination of Ecstasy and LSD is known as “candy flip.” Twenty seven percent have had Ecstasy together with

Figure 6.14:

Drugs multiple time users have tried

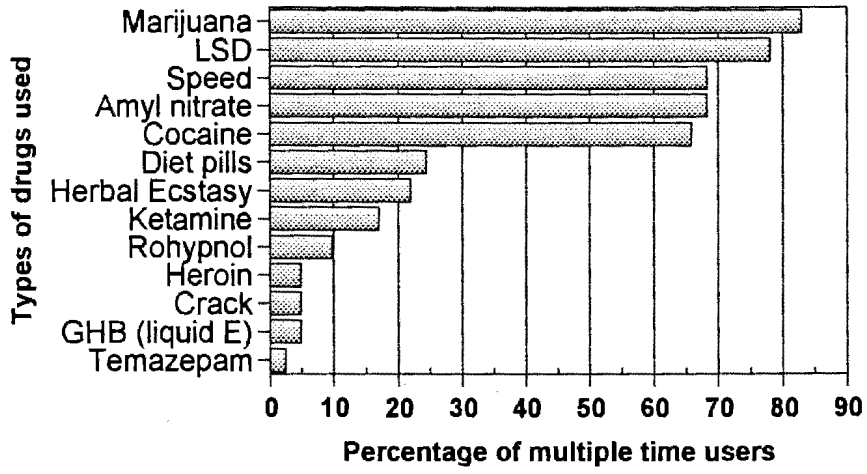
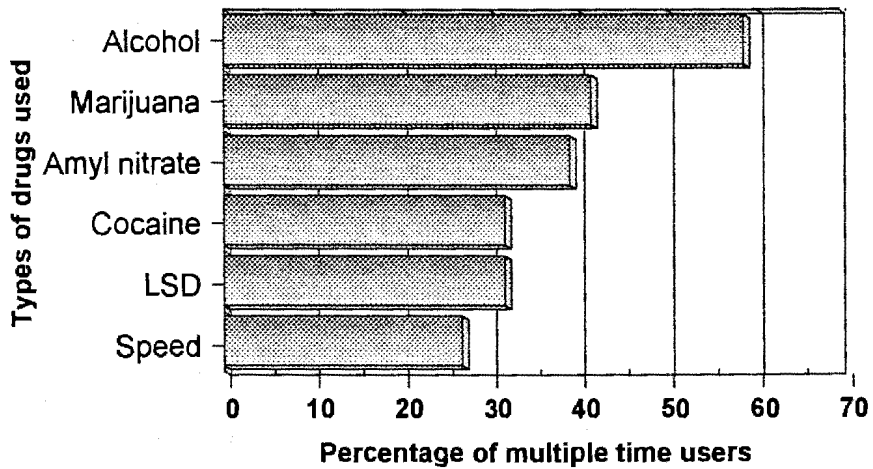


Figure 6.15:

Drugs used concurrently with Ecstasy



amphetamines (speed) which increased the stimulant properties of the drug, provided extra energy for dancing and prolonged the experience. However, it reduced the warmth of MDMA. (See figure 6.15).

Table 6.1: Combination of other drugs with Ecstasy Saunders (1997:216)

DRUG	RISK
1. Marijuana (Grass, weed)	May produce psychological problems. Many people enjoy the combination but being "stoned" reduces the MDMA clarity.
2. LSD (Acid, candy, A)	May produce psychological problems. Popular combination in low doses.
3. Amphetamines (Speed)	Risk of toxicity, overheating, problems due to high blood pressure, psychological problems and possibility of addiction increased. Popular and cheap way to extra energy for dancing, but reduces the warmth of MDMA.
4. Cocaine (Coke, charlie)	Risk of toxicity, overheating, problems due to high blood pressure, psychological problems and the possibility of addiction increases.
5. Tobacco	No known added dangers. Some people find Ecstasy enhances the pleasure of smoking.
6. Alcohol	Both dehydrate and tax the liver leading to a worse hangover and a greater risk of overdose. Used by some to relax before taking MDMA, but reduces clarity.

While it is apparent that most (71%) multiple time Ecstasy users sometimes ingested other substances together with MDMA, these experiences were distinct enough from the original MDMA experience to attribute the effects reported in this study to Ecstasy itself. It is also evident that recreational drug users are likely to experiment with various "cocktails" or concoctions of substances, whether it be pre-planned or by chance experimentation (Solowij et al 1992:1168). Further research is required to explore the various drug interactions, both legal and illegal, before the consequences of these can be fully understood.

6.3.13. Dependency

Ninety percent (90%) of multiple time users did not think their Ecstasy use was problematic while the remaining ten percent (10%) admitted to problematic use. Out of the ten percent, only one subject had sought professional help. Reasons given by respondents for not seeking

help included the fact that Ecstasy is an illegal substance, they did not know where to go and that their parents would “freak out” if they knew about their drug problem. When asked directly about dependence, seventy-eight percent (78%) of the respondents felt that one could become dependent on Ecstasy. Twenty-two percent (22%) did not think it was possible to become dependent at all. Most subjects (54%) associated a psychological dependence rather than a physical dependence (5%) with Ecstasy. Dependence on Ecstasy was described as a need to take it in order to enjoy oneself (85%), (the idea that one cannot go out and have fun without it) and the need to take it in order to cope everyday (24%). There was also mention of taking increasingly large doses, an indication that some subjects had developed tolerance.

3.14. Distressing or bad experiences related to the use of Ecstasy

Twenty percent of multiple time users reported bad or distressing experiences whilst on Ecstasy. The experiences described were largely adverse psychological reactions to the drug (similar to those described in section 6.3.11.2.) such as loss of control (12%), panic attacks (12%), paranoia (7%) and hallucinations (5%). One subject felt as though his “head was going to explode” and that his “brain had been fried” resulting in a severe headache and vomiting. The number of pills the subjects had consumed varied from 1 to 8 pills. A complicating factor is that each individual responds idiosyncratically to a given dose of MDMA. Some are very sensitive to the substance, while others might be resistant to experiencing an effect even when on high doses of MDMA. According to Eisner (1989:113) this may be due to variations in metabolism or to psychological factors. Great variations in potency have been reported by laboratory analysis of street samples ranging from 16mg-150mg which indicates quality and dose control issues (Elk 1996:351).

6.3.15. Perceived risks

Seventy-eight percent (78%) of the respondents had heard of or read about risks involved in using Ecstasy. The remaining twenty two percent (22%) had not. Subjects were given checklists of potential dangers and were required to indicate the ones they had heard of. Respondents identified the following risks: depression (63%), death (56%), reduction of serotonin (change in brain chemistry) (54%), dehydration (49%), cognitive deficits (memory, concentration) (46%), unknown composition of pills (44%), neurotoxicity (brain damage) (37%), risks to general physical health (24%), sleep disturbances (22%), neuropsychiatric disturbances (mental health) (17%), lack of research and facts regarding possible long term

effects and dangerous side effects (17%) and possible dependence or addiction (12%). There was also mention of over hydration by two subjects. Several respondents believed that death was not a very realistic danger and stated that the “chances of dying were minimal” purporting Ecstasy to be “largely a safe drug.” (See figure 6.16).

6.3.15.1. Most dangerous perceived risk

Neurotoxicity (brain damage) was perceived as the most dangerous risk by seventeen percent of the sample. This was followed by death (12%). Ten percent (10%) saw none of the above mentioned risks as being dangerous, maintaining that nothing had been proved as yet and therefore Ecstasy remained “pretty safe”. A further ten percent believed an uneducated user to be the most dangerous risk pointing out that one needs to know what to expect from the drug and what to do should one experience a negative reaction. Unknown composition of pills claiming to be Ecstasy were reported by seven percent (7%) to be the most dangerous risk and an additional seven percent reported dehydration. A very small proportion of the sample alluded to the reduction of serotonin in the brain (change in brain chemistry) (5%), risks to general physical health (5%) and overhydration (5%). Only two percent mentioned overdosing, cognitive deficits (short term memory loss) and dependence respectively. One subject referred to being caught by the police with her night’s supply of pills on her, as being the most dangerous risk. Despite these concerns, users continue to take Ecstasy believing in the myth of their own invulnerability. (See figure 6.17).

6.3.16. Influences on life in general

Sixty three percent of users believe Ecstasy has influenced their life in some way. Many respondents (46%) regarded the influence as positive rather than negative. Positive influences included improved relationships or social interactions (36.5%), gaining of self insight (24%) and enriched personal growth (17%). Three subjects claimed they had become less aggressive and more “relaxed”. (See figure 6.18). Negative influences comprised depression (12%), being generally “run down” (9.75%), more prone to colds (9.75%), more fatigued (7.3%) and a lowered immune response to infection (7.3%). Two subjects mentioned a general decline in their attitude involving a lack of motivation, laziness and moodiness. (See figure 6.19).

Figure 6.16:

Dangers/ risks of Ecstasy known to users

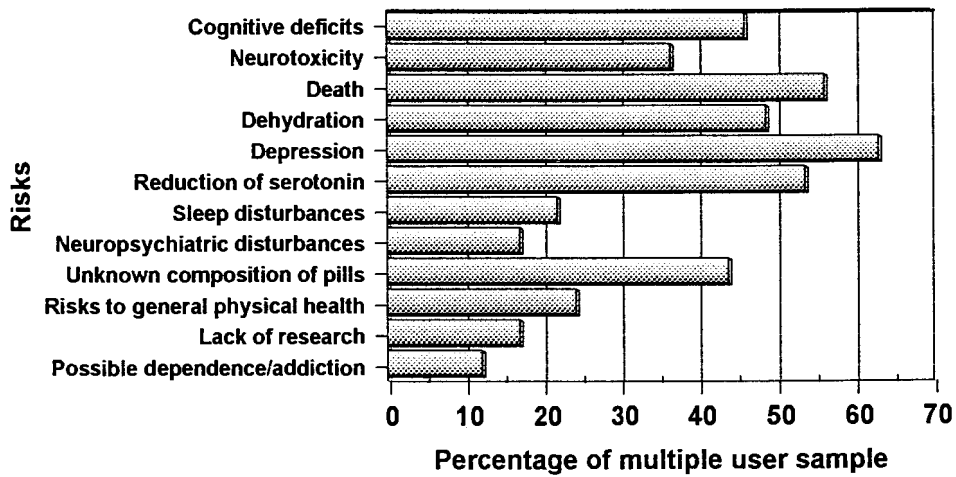


Figure 6.17:

Most dangerous reported risks by multiple time users

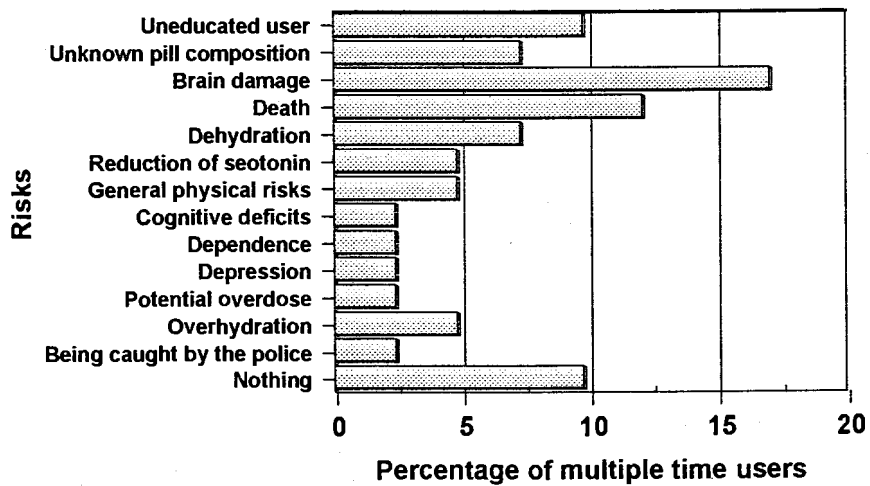


Figure 6.18:

Positive influences of Ecstasy in life

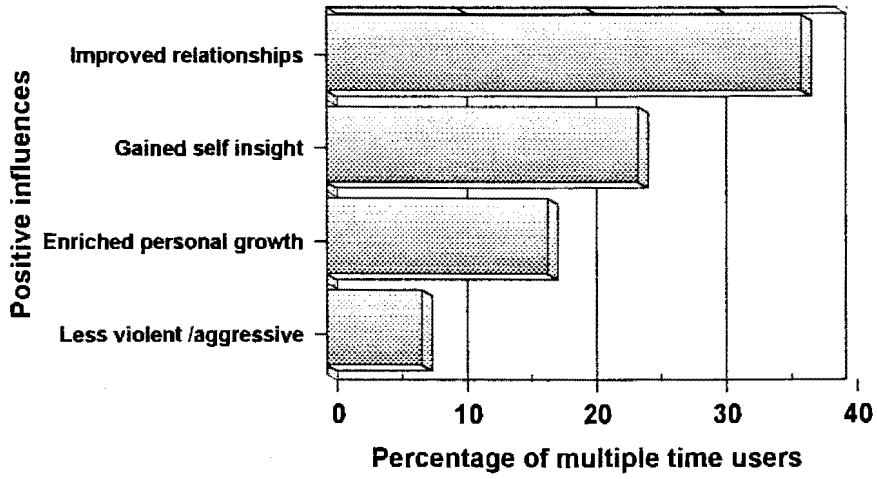
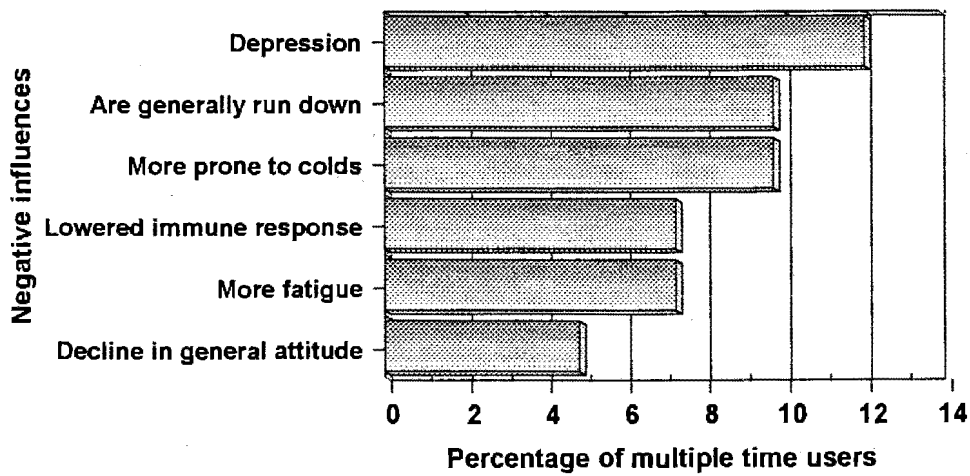


Figure 6.19:

Negative influences of Ecstasy in life



6.4. *DISCUSSION*

This study provides a thorough investigation of the ways in which Ecstasy is used, with its primary findings regarding the nature of the effects of Ecstasy as experienced by its users. As most subjects were recruited from Rave clubs, concerns arise about the possibility of the respondents distorting their answers or supplying reports about MDMA's effects which are biased through myths and stereotypes about the drug's effects held in the Rave subculture. These are clearly matters that necessitate caution when interpreting the data. Nevertheless, this researcher does not believe these factors to nullify the findings. The present data replicates much of the existing literature regarding the effects that Ecstasy elicits.

Although the various studies (discussed in chapter 3) addressed Ecstasy use from differing perspectives, namely therapeutic versus recreational use, the subjective reports of the MDMA experience remained the same regardless of clinical or recreational setting. A number of factors regarding the recreational use of Ecstasy have emerged consistently in all studies (Solowij, Hall & Lee 1992; Cohen 1995; Elk 1996). These include the reasons for use, patterns of use, mode and context of use, the nature of the experience itself (including both positive and negative psychological and physiological effects, side effects and residual effects), abuse potential and issues of tolerance.

"Night clubbers" or the dance party crowd (Solowij et al 1992:1169) whose main reason for using Ecstasy is to have "fun," were found to be the most prevalent users of Ecstasy. However, the term "night clubbers" includes many distinct groups, each with their own accepted type of music, dress, behaviour and language (Saunders 1997:37). Ecstasy is only one of the popular dance drugs and although Rave promoters and club owners deny it, the supply of drugs and Ecstasy in particular, is essential to provide an atmosphere conducive to raving.

The ingestion of MDMA at a Rave, resulting in that wonderful "high" followed by a "low" (as previously indicated in chapter 3) seems to predispose an adolescent or young adult to participate in Raves repeatedly. It may be an emotional or psychological dependence following this simulated "bipolar" condition. Psychological dependence (mentioned as a possibility by 54% of the subjects) is a condition which is characterised by an emotional and mental preoccupation with the effects of Ecstasy and an unremitting craving for these effects (Gillis

1994:108). It develops when drug use becomes far more important than other things in a person's life. Some ravers or the dance party crowd "crave" Ecstasy and feel compelled to keep on using it. They feel that they can't have fun or enjoy themselves without it. Drug users should not underestimate the "power" of psychological dependence. Psychological dependence is usually much stronger and more difficult to overcome than physical dependence. The body can eliminate a drug and return to normal within days or weeks. However, the mind and the emotions can take a lot longer (Australian Drug Foundation 1998:01).

MDMA produces a state of heightened positive mood, well being and increased emotional sensitiveness (Greer & Tolbert 1986:323; Solowij, Hall & Lee 1992:1169; Vollenweider et al 1998:241). MDMA enhances intimacy, self-insight and allows for direct, loving and honest verbal communication (Eisner 1989:35; Greer & Tolbert 1986:321; Beck & Morgan 1986:293; Elk 1996:352;354). Although MDMA has been labelled an "aphrodisiac", Ecstasy is generally described as sensual (feeling sexy or attractive) rather than sexual (Beck & Morgan 1986:293). Buffum and Moser (1986:359) too concluded that due to the increased feelings of emotional closeness, Ecstasy serves to enhance the sensual aspects of sex. Other perceived positive psychological effects included a sense of euphoria, elevated self esteem and feelings of spirituality (Elk 1996:352; Greer & Tolbert 1986:320).

The universal physical effect of MDMA that is reported by users as being positive is that of a high level of stimulation, described as feeling energetic or the desire to be in constant motion (Greer & Tolbert 1986:321; Elk 1996:352; Vollenweider et al 1998:241). Following these reported stimulant effects were heightened sensory perception and appetite suppression (Elk 1996:352; Vollenweider et al 1998:241). Combined with its stimulant properties, MDMA is perceived as perfect for the now established Rave/dance scene which involves people dancing for hours on end in clubs and warehouses. Enthusiastic dancers sometimes avoid the emotional effects of MDMA by only taking small stimulant doses at regular intervals, for example half a tablet periodically through the night, to obtain the stamina to dance for hours on end. Nevertheless, expectations do play an important part in all drug effects. There are many who wish to dance because they have been conditioned to associate this with Ecstasy, irrespective of the actual content of the pill they have swallowed, just as many will declare their love to others present for the same reason (Jansen 1997:117).

Consistent negative physiological effects reported includes nausea (Beck & Morgan 1986:296) which results in actual vomiting in some users (Cohen 1995:1140; Hayner & McKinney in Elk 1996:353). One of the most common annoying effects described is a tension of the jaw muscles (trismus) (Eisner 1989:120; Greer & Tolbert 1986:322) or jaw clenching (Vollenweider et al 1998:249), often progressing to involuntary grinding of the teeth (bruxism) (Eisner 1989:120; Cohen 1995:1140). Other negative effects commonly reported are flickering of the eyes (nystagmus), muscle hypertonicity (stiffness), elevated pulse rate (tachycardia), palpitations (Elk 1996:352;353) and dehydration (Beck & Morgan 1986:296). Individuals may experience hot and cold flushes (Elk 1996:352), insomnia (Elk 1996:352; Vollenweider 1998:249) and blurred vision (van Aerts 1997:94; Hayner & McKinney (1986) in Cohen 1995:1139). While under the influence of MDMA users may sometimes experience visual hallucinations (Elk 1996:351), anxiety, panic attacks and paranoia (McCann et al 1991:302).

The desire to urinate but having difficulty in doing so mentioned by 24% of the South African sample was the only area in which reported effects differed. This may reflect lowered salt (sodium) concentration of body fluids as a result of excessive drinking of water. Sodium has the remarkable quality of holding water in the body's tissues. It is possible that the sodium is sweated out or urinated out in higher than normal quantities (Jones 1997:203). The primary stimulus for water ingestion is thirst. MDMA is known to induce thirst. White et al (1997:117) maintain that high doses of amphetamine derivatives induce repetitious behaviours in animals and humans. It is possible that the combination of thirst and repetitive behaviour patterns such as dancing at a Rave or club leads to excessive fluid intake.

To maintain a steady body fluid balance, water intake must equal water excretion. The increased water ingestion and impaired renal excretion may result in hyponatraemia (Singer & Brenner 1998:01). Hyponatraemia comprises lowering the ionic strength (sodium/salt concentration) of the body fluids which results in less effective circulating arterial volume, leading to increased thirst and increased AVP (arginine vasopressin; formerly antidiuretic hormone) secretion. This results in impaired water excretion due to AVP's action in the kidney (Singer & Brenner 1998:05), hence the desire to urinate but not being able to do so. The clinical manifestations of hyponatraemia are related to osmotic water shift leading to an increased intracellular fluid volume, specifically brain cell swelling or cerebral oedema.

Accordingly, the symptoms are primarily neurological and their severity is dependent on the rapidity of onset and total decrease in plasma sodium concentration (Singer & Brenner 1998:06).

Simply put, when the sodium concentration is lowered due to unrestricted water intake, water is lost into the fabric of the body's tissues causing swelling. This does not present so much of a problem for most tissues but it presents the brain with real difficulties. The brain encased as it is by the skull can not swell excessively. The brain becomes compressed as a result of an abnormal accumulation of fluid in the brain tissue and puts pressure on the brain stem which controls heart and breathing functions (Jones 1997:203). This results in cerebral oedema and can eventually lead to death (van Aerts 1997:93). When thirsty while on Ecstasy, it is therefore more sensible to drink isotonic fluids, instead of only pure water, which will help replace some minerals like sodium and preserve the balance of fluids in circulation.

Although side effects can be uncomfortable, only a few users find that side effects spoil the Ecstasy experience. Adverse sequelae during the following twenty four hours included lack of energy and appetite, feelings of restlessness, occasional difficulty concentrating and brooding (moodiness) (Vollenweider et al 1998:249). Given the congruity of reported effects in this study with those of previous research, it would appear a reasonable assumption to make that the Ecstasy being sold in the clubs in Durban was primarily MDMA. According to Doblin (1998:04) in the *High Times*, the tested Ecstasy samples sent from South Africa contained only one psychoactive ingredient - a very substantial dose of MDMA. Although it appears that Ecstasy tablets sold in the clubs are largely MDMA, the safety of MDMA tablets and capsules cannot be determined with certainty.

Ecstasy is not always enjoyable. The very same qualities that make it worthwhile can be very uncomfortable in certain situations. Although users nearly always blame the quality of the drug, bad experiences can also transpire with pure Ecstasy. Normally people find the drug liberating and enjoy "letting go", but in some situations they may feel uncomfortable without their normal defences. Lowered defences may provide a wonderful feeling of freedom in a warm supportive environment, but may be extremely unpleasant in other circumstances. Users may come to regret bitterly having disclosed their insecurities or longings when under the influence of Ecstasy (Saunders 1997:53). Some insights can be painful and difficult to accept,

such as realising that your partner never loved you or that your dreams are not attainable. To remember a traumatic situation without support can be devastating. When someone is barely managing to keep life together, such situations may be very stressful and may result in post traumatic stress. Fortunately such adverse reactions are uncommon (Saunders 1997:53).

Consistent with other studies, users from this sample report that the “positive” or pleasurable effects of the drug decrease with frequent use. Further, while pleasurable effects diminish, side effects tend to increase, both with frequent use and with high doses of the drug (Solowij et al 1992:1170). Following their first exposure, some individuals will attempt constantly to re-experience the positive aspects of Ecstasy. However, this abusive cycle tends to be short-lived as the frequent use of MDMA almost always produces a strong dysphoric reaction, which is only made worse with continued use (Beck & Morgan 1986:298).

Some users use a successive dose or a “booster dose” in order to prolong the MDMA experience (Beck & Morgan 1986:293; Eisner 1989:114). This dose can range in size from 40 mg (half a tablet) up to the size of the initial dose, generally between 80-120mg. The booster is usually taken about one hour after the onset of the first dose’s effects. Sometimes a second booster dose is taken in another hour. However, the second booster dose usually does not have the desired effect of enhancing the experience. Instead the taker is often made to feel anxious, jittery and sometimes confused by this third dose with little of the characteristic effects of the first two (Eisner 1989:114). A continuous use of boosters generally leads to great fatigue the next day (Beck & Morgan 1986:293).

In a 1985 study of MDMA users, Siegal (in Beck & Morgan 1986:297) maintains that the most common patterns of use are “experimental” (ten times or less in a lifetime) or “social recreational” (one to four times per month). He also said that “compulsive patterns marked by escalating dose and frequency of use have not been reported with MDMA users.” However it certainly appears that this is no longer the case. The present study indicates a change in the pattern of Ecstasy use. Here escalating doses appear to have become quite common as individuals try and “get more out of it”- some taking 10 pills as their usual dose per night while others have tried between 10 and 20 tablets on some occasions. McGuire et al (1991:697) declare that the use of almost any substance may become compulsive and excessive in some individuals.

Jansen (1997:125) asserts that with repeated use, the effects of Ecstasy increasingly resemble those of amphetamine (speed), a jittery, anxiety provoking stimulant high and the patterns of use may begin to have the appearance of a dependency problem, especially in persons who are taking 25 pills Thursday to Monday month after month. As previously mentioned in chapter 3, the ICD-10 (1992:75) states that it is not necessary to take a drug every day before a dependency syndrome can be recognized, nor is physical withdrawal necessary for the diagnosis. The possibility that Ecstasy may be associated with tolerance, dependence and withdrawal syndromes will surprise those users who only take the drug occasionally in controlled circumstances as distinct from the three day party group (Jansen 1997:125).

Ecstasy has an effect on dopaminergic systems which is similar to that of stimulants associated with dependency and activates dopamine-based pleasure systems in a manner resembling amphetamine and cocaine (Jansen 1997:126). The dopamine levels are increased with the result being over-stimulation of the pleasure pathway nerves in the brain causing prolonged feelings of pleasure (reward) and excitement (euphoria) (<http://www.biopsychiatry.com> 1998:01). It was once believed that Ecstasy would be free of any dependency risk because of the rapid loss of the empathogenic "loved up" effect with repeated use. However, while loss of this effect may lead to dwindling use in an older group who take Ecstasy for its empathogenic qualities, younger users in the Rave / dance culture may come to appreciate the more amphetamine-like qualities and have different expectations (Jansen 1997:126).

In rapport with previous studies, the findings of this study suggest that the negative effects of Ecstasy are dose related, in that their severity correlated with both the total number of doses consumed and with frequency of use, further emphasizing the roles of tachyphylaxis (a decreasing response to a drug after administration of a few doses) and tolerance (Solowij et al 1992:1170). Seymour (1986:55) affirms that high doses of MDMA occasionally produce a variety of symptoms ranging from "a caffeine-like jitteriness to a well defined break with reality," accompanied by muddled thought, mood swings and erratic behaviour. Although Parrot et al (1998) found individuals with low MDMA exposure (10 or fewer doses) to show memory deficits, Bolla et al (1998:07) found that only subjects with high total monthly MDMA dosages have memory deficits. With smaller amounts of MDMA, psychopathology is seldom displayed, although some restlessness, anxiety and insomnia may occur (Beck & Morgan 1986:298).

Many people report long term benefits resulting from their use of MDMA. Such benefits include belief changes that continued long after MDMA sessions and resulted in a more positive attitude or belief about themselves, individually or in their interaction with others or with the world in general. Subjects expressed feeling more relaxed, calm and/ or less anxious or agitated (Greer & Tolbert 1986:327;321). In agreement with a study by McCann and Ricaurte (1994 in Doblin 1995:04) where MDMA users exhibited less hostile and impulsive personality traits, three subjects in this study claimed to have become less aggressive and more easy going.

Although most respondents regarded the drug's influence as positive, some negative long term influences were reported. MDMA may exert an adverse effect on the immunological response of some individuals. According to Beck and Morgan (1986:296) this effect is most often associated with repeated high dosages, particularly in individuals who have used the drug over a long period of time. In the present study, long term Ecstasy use constituted a period of one year. Long term users often describe increasingly uncomfortable and prolonged "burn out" periods sometimes lasting two or more days. Many individuals have also reported a greater susceptibility to various ailments, particularly sore throats, colds, flus and herpes outbreaks (Beck & Morgan 1986:296). Depression has also been reported (Cohen 1995:1142). These reactions however, appear to be rare in initiate users and individuals in good physical and mental health (Beck & Morgan 1986:296).

While the media have been full of reports of extreme adverse reactions to Ecstasy, in reality these are quite rare. According to Solowij et al (1992:1170) Ecstasy is the least frequently seen drug of all clinical drug-related presentations. The cases being reported in the clinical literature present extreme exacerbation of the physiological side-effects of Ecstasy, such as increased heart rate (tachycardia), elevated body temperature (hyperthermia) and lack of muscular co-ordination (ataxia), or with symptoms of toxic psychosis (Solowij et al 1992:1170). Often these are triggered by some precipitating factor such as a pre-existing medical condition (Dowling 1990 in Solowij et al 1992:1170) or arise due to extremely high doses being consumed, sometimes with other concurrent drug use (McGuire & Fahy 1991:697).

Jansen (1997:116) points out that the pure Ecstasy user is a rare being. As seen in this study, most people (71%) who take Ecstasy also use other drugs, some of which are clearly associated with a risk of mental health consequences. This point is hardly ever emphasised in the case reports attributing a psychiatric disorder to Ecstasy use, where other drug use is often dismissed in a few lines. The concurrent use of large amounts of cannabis, LSD, alcohol and or amphetamine is often pushed into the background. MDMA deaths are particularly baffling as they are unpredictable. In some cases, other people appear to have taken similar quantities of Ecstasy from the same source as the overdose victim, with only minor toxic effects (White et al 1997:117). One theory is that variations in metabolism of the drug caused by genetic differences or concurrent use of other drugs may result in differential susceptibility to MDMA overdose (White et al 1997:117). It is possible that some users will experience allergic reactions to MDMA and it has been suggested that a combination of individual sensitivity or susceptibility and dosage may account for the cases of adverse reactions that are severe enough to come to light (Solowij et al 1992:1170).

Amongst ravers the view that MDMA is a relatively safe drug prevails. Even if the majority of users do not experience unsettling side effects from Ecstasy use, there still may be grounds for caution in that the long term consequences of even problem free use are as yet unknown (Solowij et al 1992:1170). Researchers have found that MDMA causes alterations to serotonin regulated systems in the brains of experimental animals (Fischer et al 1995:5476; Ricaurte 1997:01; Sprague et al 1998:427). There also is a growing body of literature suggesting a neurotoxic effect of MDMA on serotonergic nerve terminals in the human brain as well (McCann et al 1998:07; Granquist 1995:03; McCann and Ricaurte 1994:135). The relevance of animal studies to humans taking one or two Ecstasy tablets occasionally has been questioned (Jansen 1997:113). However, the animal studies do suggest that persons taking large amounts of Ecstasy for several days may be at some risk of persistently low serotonin (Jansen 1997:113). Many of the adverse effects reported in this study have been well documented in the literature as having originated from abnormal neurotransmission of serotonin in the brain. Alterations in neurotransmitter systems, including brain serotonin, have been commonly associated with the pathophysiology of depression, anxiety, headaches, sleep disorders and sexual functioning (Cohen 1995:1143). It has been suggested that heavy users of Ecstasy may be at increased risk of developing psychological problems of this nature (Jansen 1997:113).

Accurate knowledge of the toxicity of Ecstasy and the risks involved with the use of Ecstasy is lacking amongst its users. Misinformation concerning the drug is the greatest danger. According to Rosenbaum (1999:08) a common belief amongst many educators, policy makers and parents is that if adolescents simply understood the *dangers* of drug experimentation they would abstain. However, in an effort to encourage abstinence, “risk” and “danger” messages are sometimes exaggerated and at times even completely false. Consider the following comment by a 16 year old boy in the 10th grade at a Durban high school: “My parents told me that Ecstasy causes brain damage and that I would probably end up in a coma and be a ‘vegetable’ if I tried it. At school, my guidance teacher told me that Ecstasy makes you major depressed and that you would become suicidal after the first time you took it and it’s really not like that. You hear all that negative stuff, and then you go ahead and try it anyway, and you say, ‘Aha, they lied to me’.” When such information is given, students discredit both the message and the messenger because these false messages are inconsistent with their actual observations and experience. They see their friends and themselves, as people who have used Ecstasy without any of those damaging effects. As a result, adolescents lose confidence in what we, as parents and teachers tell them and are thus less likely to turn to us as credible sources of information.

Rosenbaum (1999:09) asserts that ultimately the problem with delivering unbelievable messages, is that students will define the entire drug education exercise as a joke. However, their dismissal of warnings should not be taken lightly. A frightening ramification of imparting misinformation to them is that adolescents will ignore our warnings completely and put themselves in real danger. For example, a young female who did not find the negative claims about Ecstasy credible, downgraded the entire message and tried heroin. Rosenbaum (1999:09) maintains that today’s increased purity and availability of “hard drugs” coupled with adolescents’ refusal to heed warnings they don’t trust, have resulted in increased risk of fatal overdose.

Adolescents have a knack for seeing through inconsistencies and are far less concerned with the legality of activities than are adults who understand the implications of breaking the law. It is not enough to tell students they must refrain from certain drugs because they are illicit. Adolescents often do not care and are sometimes attracted to drugs because they are illegal. Adolescents will however use or reject a given substance for reasons having to do with its

effects or reputation (Rosenbaum 1996:11). Ecstasy (MDMA) produces a positive mood state, a generalized feeling that all is right and good with the world. People on MDMA often describe feeling “at peace” or primarily experiencing a “happy” feeling and emotional closeness to others. Personal communication barriers are also broken down. The feeling of unity and shared joy at a Rave can be overwhelmingly wonderful. These effects are appealing to adolescents particularly those with a poor self-esteem who are not at ease talking to others and who long to be accepted. If using Ecstasy at a Rave is perceived as “cool” by their peer group or as the “in thing” to do, adolescents will try it. Honest and therefore accurate drug education is imperative. It can save lives and reduce the harm that drugs can cause.

Existing drug education programmes have been based on the idea that drug use can be prevented or at least reduced through tougher law enforcement measures and educating young people into saying no to drugs. The only flaw in this seemingly obvious strategy is that contemporary drug policies have been unsuccessful. Williamson (1997:65) points out that there has been a continual rise in the number of people taking illegal drugs, drug-related offences and drug related deaths. As formerly mentioned in chapter two, the latest figures according to the South African Narcotics Bureau (May 1999) indicate that one in three, and in the higher grades, one in two school going youngsters are experimenting with drugs. This suggests that drug use is definitely on the increase especially with the younger age group.

Rosenbaum (1996:08) maintains that traditional drug education programmes have as their underlying premise the goal of abstinence from all illegal drugs. While the abstinence only mandate is well meaning, it is misguided. The expectation that adolescents, at a time in their lives when they are most receptive to risk taking, will be “inoculated” from experimentation with altered states of consciousness is unrealistic at best (Rosenbaum 1999:09). Drugs have always been and are likely to remain part of youth culture. Adolescent experimentation with drugs continues despite drug prevention efforts. The recent escalation in adolescent drug use is proof that the “just say no to drugs” programmes have failed. After the admonitions and instructions to abstain from drugs, the lessons end. There is no information on how to reduce risks, avoid problems or prevent abuse. Abstinence is seen as the only measure of success and the only acceptable teaching option (Rosenbaum 1999:09).

The “abstinence only” mandate leaves teachers and parents with nothing to say to those students who say “maybe” or “sometimes” or “yes” to drug use, the very adolescents educators need to reach most. Goode (1993:334) asserts that “almost all drug education programmes strive for prevention as their ultimate goal. It is possible that this goal is unrealistic with current experimenters and users. Perhaps *moderate* or wise use is a more realistic goal.” Drug researchers Botvin and Renisow (in Rosenbaum 1999:10) maintain that “although controversial, programs that include messages of responsible use may be more credible, and ultimately, more effective... The primary goal of substance abuse prevention programs should, it could be argued, be the reduction of heavy use and abuse rather than limiting experimentation among individuals unlikely to become frequent users.”

Since total abstinence is not a realistic goal, educators need to adopt a pragmatic rather than moralistic view toward drug use. Like adolescent sexual activity, drug use will happen so instead of becoming morally indignant and punitive, educators should assume the existence of drug use and seek to minimise its negative effects and dangers (Rosenbaum 1996:12). Rosenbaum (1999:10) proposes a “safety first” or harm reduction strategy for drug education which requires reality based assumptions about drug use and drug education. Whether we like it or not, many teenagers will experiment with drugs. Some will use drugs more regularly. At the same time that abstinence is stressed, a fallback strategy for risk reduction should also be provided. This would provide students with information and resources so that they do the least possible harm to themselves and those around them.

All drug use in adolescents should not be labelled as abuse (Pipher 1994:190). Adolescents who use Ecstasy despite their parents’ and teachers’ admonitions to abstain, need to understand that there is a huge difference between use and abuse and between occasional and daily use or addiction. If they continue using Ecstasy, adolescents need to know that they can and *must* control their use by using in moderation and limiting their use (Rosenbaum 1999:12).

Guidelines for MDMA or Ecstasy use should be considered. These should address educating users about appropriate fluid intake, advisable dosage, the dangers of combining Ecstasy with other drugs, both illegal and prescribed and the warning signs of toxicity (White et al 1997:117). White et al (1997:117) assert that the latter is particularly important, as obvious signs of acute toxicity have been ignored in several cases possibly through ignorance or

concern about risk of arrest for possession of an illegal substance. Circumspection is nevertheless imperative with recreational Ecstasy use until further studies can ascertain the extent to which the drug is dangerous in humans.

Since Ecstasy use cannot be eliminated altogether, the best educators can hope for in place of total abstinence is responsible use based on informed decisions - a result of the following underlying message to adolescents - "Say NO... and if you can't say NO... say KNOW." In simple terms, it is our responsibility as parents and teachers to engage students and provide them with credible information so they can make responsible decisions, avoid drug abuse and stay safe. (*See chapter 8 for more detail on harm reduction drug education*).

The following chapter examines the findings of the standardized tests.

CHAPTER SEVEN
FINDINGS OF STANDARDIZED TESTS
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7.1. INTRODUCTION

As formerly stated, the empirical investigation focusses on establishing the mode and context of Ecstasy use and whether there is in fact a typical profile of young Ecstasy (MDMA) users. While the previous chapter concentrated on the findings of the nature of Ecstasy use in Durban, this chapter centres on the developmental status of various aspects of the Ecstasy users' personality, namely their self concept, values and sense of identity. The standardized tests used include the 16PF-personality questionnaire, the values scales (VS), the adolescent self concept scale (ASCS) and the personal identity scales. The individual cases are presented first, followed by an overview and a general discussion. Where the interfactor relationships in the 16PF personality analysis are of significance they are commented on. Visual representations of test results are given however, due to the dissertation's length and limitations of two graphs per page, every alternate case is presented differently. The visual representations appear on the designated pages as follows: personality profile and values scales; dimensions of the self concept and personality profile of the following case; values scales and dimensions of the self concept. Thereafter the graphic sequence begins again.

7.2. Subjects

Ten Ecstasy users were randomly selected for the standardized tests from the initial fifty subjects used for the structured interviews. The ten selected subjects were between the ages of 18-22 (late adolescence). The subjects consisted of six males and four females respectively. In addition to being scholars and university or Technikon students, some Ecstasy users were employed while others were unemployed. The various cases will now be examined.

7.3. CASE STUDY 1: MORNE (male)

7.3.1. Background

Morné is an 18 year old graphic design, Technikon student. He is a regular Rave goer and has been taking Ecstasy for a period of two years. He started experimenting with drugs in Grade 10 (aged 15) where he was introduced to cannabis during lunch time on the school field. Morné's first exposure to Ecstasy was at age seventeen, in his matric year. He mentioned how a group of them had decided to see what all the "rage" concerning Ecstasy was about and therefore pooled their money to buy a few pills for an upcoming Rave. A matric boy in Morné's class had a contact. The Ecstasy pills were distributed to the group at the school just before the weekend. Unlike some of his other school friends who would arrive at school still

“wired” (under the drug’s influence) after a hectic night out, Morné did not allow Ecstasy to jeopardise his matric. Despite his enjoyment of the drug, he was disciplined enough to stay off Ecstasy until after he had written his final exams.

7.3.2 16 PF- PERSONALITY QUESTIONNAIRE

Of the sixteen possible scores, 6 of Morné’s transformed scores are truly average, that is between stens of 5 and 6, indicating an absence of suppressed personality traits. He does however have one extreme score, namely factor Q1, where he scored a 10. Factor Q1 is a measure of rebelliousness. Extreme Q1 scores may be associated with radicalism and an inability to accept authority (Golden 1979:115). Morné appears to be analytical and free thinking and is generally more well informed. He is skeptical and inquiring regarding ideas, is less inclined to moralise and tends to experiment (Cattell et al 1970:104). He is likely to be more tolerant of inconvenience and change (Cattell et al 1962:17). This correlates with factor G (a measure of group conformity) and factor E (a measure of dominance). However it is in direct conflict with factor F (a measure of impulsivity).

Morné obtained a high score of 8 on factor Q2. Factor Q2 is a measure of self- sufficiency. Morné appears to be a self sufficient individual who prefers depending on his own resources and his own judgements (Golden 1979:115). He is resolute and accustomed to going his own way, making decisions and taking action on his own (Cattell et al 1970:105). He discounts public opinion but is not necessarily dominant in his relations with others. He does not dislike people but simply does not need their agreement or support. He does not depend on social approval (Cattell et al 1962:17). This correlates with factor I (a measure of emotional sensitivity) on which his score is a low average 4.

Morné obtained low scores on the following factors: A, L, M

He obtained a low score of 2 on factor A which is theoretically a measure of warmth (Golden 1979:110). Morné seems to have a tendency to be cautious in his experience of emotions, inflexible and critical in his view of life, and aloof in his behaviour towards others (Smit 1996:290). It appears that Morné tends towards a “flat” affect- “flat” referring to the flatness and dryness of emotionality (Cattell et al 1970:81). He likes things rather than people, working alone and avoiding compromises of viewpoints (Cattell et al 1970:81). Morné is likely to be precise and rigid in his way of doing things and in personal standards. He may tend

at times to be hard (Cattell et al 1962:13). This contradicts factor N (a measure of shrewdness) however it corresponds with factors Q2 (a measure of self sufficiency) and factor I (a measure of emotional sensitivity).

On factor L (a measure of suspiciousness), Morné scored a 3 suggesting that he is trusting and accepting (Smit 1996:296). He tends to be free of jealous tendencies, is tolerant and generally uncritical (Golden 1979:113). He is concerned about other people and is a good team worker (Cattell et al 1962:16). Morné can be described as easygoing, friendly and relaxed. However, he may lack in ambition and striving (Cattell et al 1970:97). This clashes with factors A (warmth) and I (emotional sensitivity).

A three (3) was also scored on factor N (a measure of shrewdness). This suggests that Morné is a genuine, direct person with a natural warmth and liking for people (Cattell et al 1970:101). He is inclined to get easily emotionally involved, is very trusting and is unskilled in analysing others' motives (Cattell et al 1970:99). Morné tends to be spontaneous and natural. He is sometimes socially clumsy but easily pleased and content with what comes (Cattell et al 1962:16). This further contradicts factors A (a measure of warmth) and factor I (a measure of emotional sensitivity) but it corresponds with factor L (a measure of suspiciousness).

Morné's scores which fall on the outer boundaries of average, that is 4 and 7, may be interpreted as follows:

He scored a high average 7 on factor E (a measure of dominance) suggesting that he tends to be assertive, independent minded and self confident (Cattell et al 1962:14). Morné is headstrong and is likely to be rebellious (Golden 1979:111). He feels free to participate in a group (Cattell et al 1970:86). This corresponds with factors Q1 (a measure of rebelliousness), Q2 (a measure of self sufficiency) and O (a measure of guilt proneness).

Morné scored low average 4 on factors F, G, I and O respectively. Factor F is a measure of impulsivity. His score suggests a tendency to be serious rather than impulsive and committed to inner values and introspective behaviour. Morné appears to adopt a generally slow or cautious approach to problems (Golden 1979:112). This contradicts factors Q1 (a measure of rebelliousness), E (a measure of dominance) and N (a measure of shrewdness).

Factor G is a measure of group conformity. Morné's score indicates a tendency to be fickle, frivolous and self-indulgent. He is inclined to be undependable, casual and generally unconcerned about group standards or morals (Golden 1979:112). Morné may appear to disregard rules (Smit 1996:293). This conflicts with factor F (a measure of impulsivity) and factor L (a measure of suspiciousness).

Factor I is a measure of emotional sensitivity. Morné tends to be tough minded, self-reliant and lacking in sentimentality (Golden 1979:113). He is realistic, responsible and acts on logical, practical grounds. Morné can be hard, sometimes to the point of cynicism (Cattell et al 1970:93). This corresponds with his low score on factor A.

Factor O is a measure of guilt proneness. Morné appears to be an untroubled, adequate individual who is likely to be self confident, cheerful and likely to act when it is necessary (Golden 1979:114). He tends to be placid with unshakable nerve. He has a mature, unanxious confidence in himself and his capacity to deal with things. He is resilient and secure (Cattell et al 1962:17). This correlates with factor E (a measure of dominance).

7.3.2.1. INTERFACTOR RELATIONSHIPS

There were no interfactor relationships of significance.

7.3.2.2. SECOND ORDER FACTORS

Extraversion (factor QI)

Morné obtained a low average score of 4.4, that is a stanine of 4. Morné tends to be shy, self sufficient and inhibited in interpersonal contacts. This can be either a favourable or unfavourable finding depending upon the particular situation in which he is expected to function (Cattell et al 1962:21).

Tough Poise (factor QIII)

Morné obtained a high average score of 7.3, that is a stanine of 7. This is suggestive of an enterprising, resolute and resilient personality who does not appear to be easily swayed by feelings (Cattell et al 1962:22). Morné may be described as generally aloof, tough and less inclined to fantasy. He is therefore inclined to handle problems in a rational and objective manner (Smit 1996:284-285). However he is likely to miss the subtle relationships of life and

to orient his behaviour too much toward the obvious. If he has difficulties they are likely to involve rapid action with insufficient consideration and thought (Cattell et al 1962:22).

Independence (factor QIV)

Morné obtained a high score of 8.3, that is a stanine of 8 on factor QIV (a measure of independence). Morné tends to be a boldly independent, incisive person (Cattell et al 1962:22). He is generally a person who is difficult to get along with. The reason is that he is not simply aggressively independent, but chooses and enjoys doing things in his own individual manner: "I'll do my own thing and in my own way" (Smit 1996:285). Morné will seek those situations where such behaviour is at least tolerated and possibly rewarded and is likely to exhibit considerable initiative (Cattell et al 1962:22). (See figure 7.1).

7.3.3. VALUES SCALES

Regarding personal development (3), Morné did not appear to have plans about what he wanted to do with his life. Achievement (3) was not a major concern. Morné did not place much importance on living his life according to religious principles (spirituality, 2) or helping others and being concerned about their welfare (altruism, 3) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.2).

7.3.4. SELF CONCEPT SCALE

Morné obtained a stanine of 5 which is representative of a medium or average self concept. The following negative information emerged in the different dimensions of the self-concept test:

7.3.4.1. PHYSICAL SELF - relations with one's physical condition.

- ♦ Morné dislikes always being neat.
- ♦ He is usually untidy.
- ♦ He is usually aware of pain somewhere in his body.
- ♦ He is usually aware of feeling unwell.
- ♦ Morné feels dissatisfied with certain aspects of his physical appearance and would change them if he could.
- ♦ Morné is very nervous when he has to appear before a group of people.

Figure 7.1:

Personality Profile Subject 1 - Morné

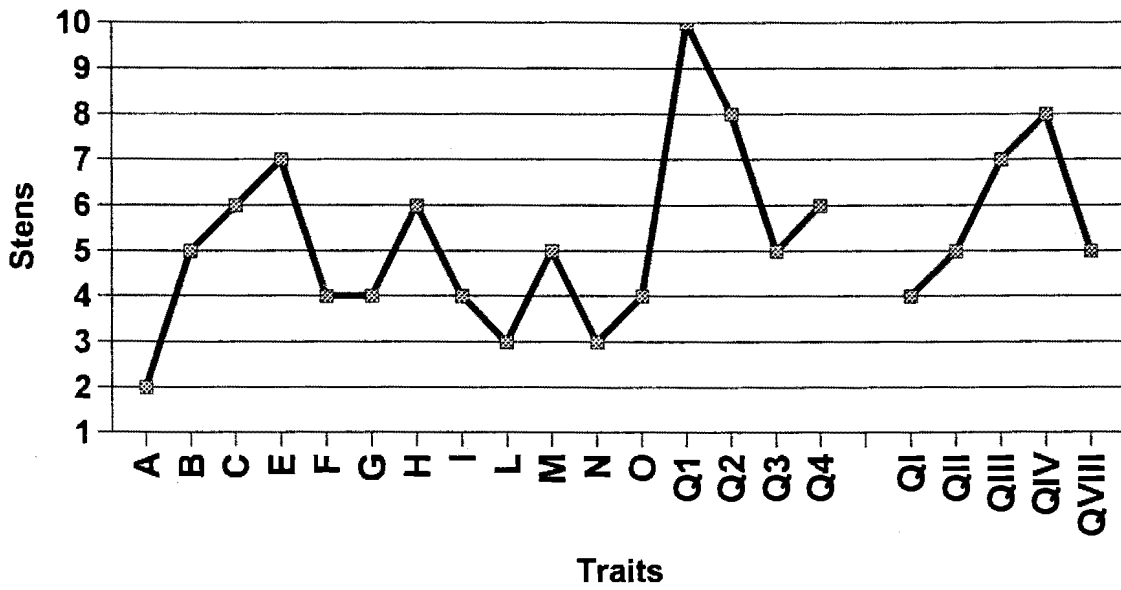
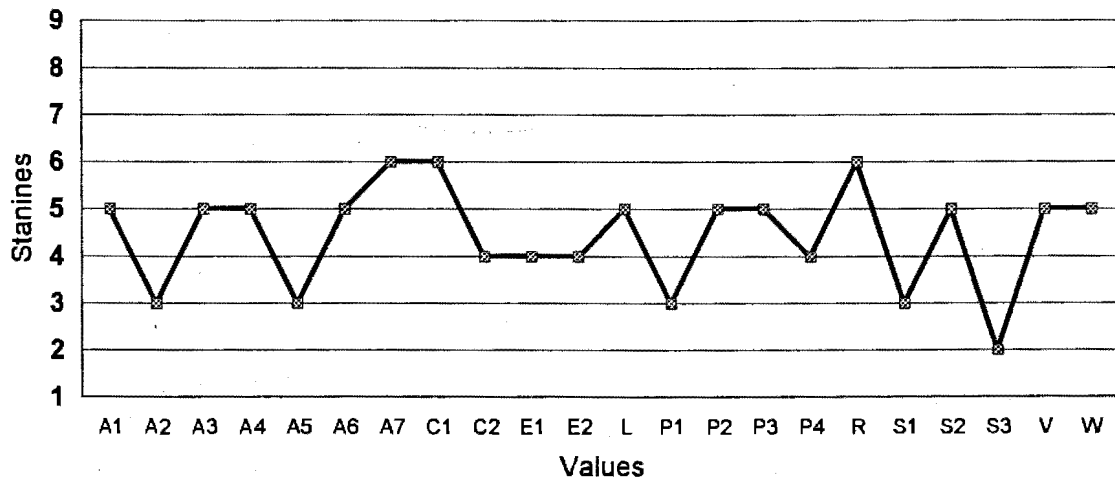


Figure 7.2:

Values Scales Profile of Subject 1 - Morné



7.3.4.2. PERSONAL SELF- *relations with one's psychological condition.*

- ♦ Morné is always envious of character traits which he perceives in others.
- ♦ He cannot tolerate rebuke.

7.3.4.3. FAMILY SELF- *relations with one's family and relatives.*

- ♦ Morné's family is not very happy.
- ♦ His family seldom asks his opinion.
- ♦ He feels that his family is suspicious of everything that he does.
- ♦ Morné does not like family gatherings.
- ♦ He is not particularly scrupulous about being fair to his family.
- ♦ He does not take much interest in his family.

7.3.4.4. SOCIAL SELF - *relations with others in the social community.*

- ♦ Morné is not always friendly.
- ♦ He is not very popular with the opposite sex.
- ♦ He is usually reserved and self conscious with strangers and particularly with people in authority.
- ♦ He always finds it difficult to forgive someone who has falsely accused him.

7.3.4.5. MORAL SELF- *relationship to moral and religious values, that is moral-ethical self.*

- ♦ Morné worries about his behaviour which often leaves much to be desired.
- ♦ He does not trouble to return change when it is too much.
- ♦ Morné is not very religious.
- ♦ He constantly worries about his religion.
- ♦ He does not feel particularly guilty if he is compelled to tell a small lie.
- ♦ He is hardly aware of the poor, cripples, blind people and ignores rather than helps them.
- ♦ Morné sometimes uses questionable methods in order to get ahead.

(See figure 7.3).

7.3.5. SENSE OF PERSONAL IDENTITY

Morné obtained a raw score of 58 on the personal identity scales which is indicative of an average sense of identity.

Figure 7.3:

Dimensions of the self concept - Morné

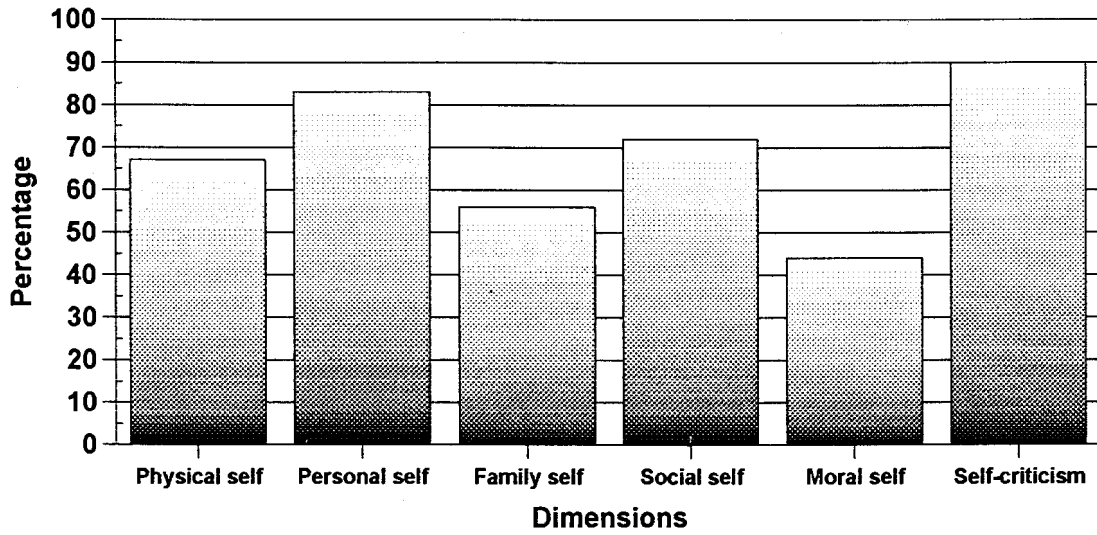


Figure 7.4:

Personality Profile of Subject 2 - Cathy



7.3.6. PERSONAL IMAGE

Morné is an independent minded individual who is strongly inclined to question and often discount traditional beliefs. He tends to be experimental in his approach to life and keeps himself well informed. He is decisive and resourceful and does not seek the agreement of friends in making decisions or in taking action. Morné is not influenced greatly by public opinion. He appears to be in the habit of going his own way and may tend to be seclusive, considering most social activities to be a waste of time. He is reserved, aloof in his behaviour towards others and is inclined to be frustrated by extensive interpersonal contacts. He is generally a person who is difficult to get along with and is sometimes rejected by others. Morné does not dislike people however, he tends to lack social skills and is inhibited in interpersonal contacts. Although Morné tends towards a flat affect he can be friendly and helpful to others and is generally trusting, forgiving and indulgent.

7.4. CASE STUDY 2: CATHY (female)

7.4.1. Background

Cathy is 18 years old and in grade 12. Her first exposure to Ecstasy was at sixteen years of age (grade 10) at a Rave with her boyfriend (who was eight years her senior) and his group of friends. Since then, Cathy has become an avid raver. She believes the Rave to be a great stress release, a place where she can be completely uninhibited and not restricted by rules. Ecstasy allows her to escape the uncertainty and instability present in everyday "South African" society and to enjoy the feeling of being at ease with herself and comfortable with the entire world. Cathy proposes the Rave philosophy of PLUR (peace, love, unity and respect) as a utopian solution for the "South African" situation.

7.4.2 16PF- PERSONALITY QUESTIONNAIRE

Of the sixteen possible scores, 2 of Cathy's scores are truly average, that is between 5 and 6 indicating a clear absence of suppressed personality traits. Cathy obtained three extreme high scores of 10 on factors M, O and Q1 and three extreme low scores of 1 on factors C, G and Q3. These can be interpreted as follows:

Factor M is a measure of imagination. Cathy can be described as Bohemian. She is self-motivated, imaginatively creative and unconventional. She is unconcerned over everyday matters. Instead she is concerned with "essentials" and oblivious of particular people and

physical realities (Cattell et al 1962:16). Cathy may be easily diverted from practical judgement and is inclined to be absentminded (Smit 1996:296). Her individuality tends to cause her to be rejected in group activities (Cattell et al 1962:16). This correlates with factor Q1 (a measure of rebelliousness) and factor G (a measure of group conformity) however it conflicts with factor O (guilt proneness).

Factor O is a measure of guilt proneness. Cathy appears to be a troubled, insecure, frightened individual who is likely to be depressed and anxious (Golden 1979:114). She displays a childlike tendency to anxiety in difficulties (Cattell et al 1962:17) and is easily down hearted (Cattell et al 1970:102). She tends to be full of self-reproach (Smit 1996:297) and is sensitive to the approval and disapproval of others (Golden 1979:114). She does not feel accepted in groups or free to participate. Cathy is likely to be lonely (Cattell et al 1970:101). Cathy is likely to feel over tired, sleep poorly as a result of worry and feel incapable of fulfilling her daily obligations (Smit 1996:298). This concurs with factor Q4 (a measure of anxiety and tension) and factor C (a measure of ego strength).

Factor Q1 is a measure of rebelliousness. Extreme Q1 scores may be associated with radicalism and an inability to accept authority (Golden 1979:115). Cathy's score points to an individual who is inquiring, analytical and free thinking. She appears to be generally more well informed, is inclined to experiment and is less moralising (Cattell et al 1962:17). Cathy is likely to be more tolerant of change (Cattell et al 1970:104). This correlates with factor M (a measure of imagination) and factor E (a measure of dominance).

Factor C is described by Cattell (1962:14) as a measure of ego strength. Cathy's score is suggestive of an inability to handle frustration and a general emotional lability. She tends to evade responsibility, is inclined to worry unduly and gives up (Golden 1979:111). Cathy is changeable in attitudes and interests and is easily perturbed. She appears easily irritated by people and things and is dissatisfied with the world's situation and her family. Cathy displays a general inability to deal with stress and is likely to feel unable to cope with life (Smit 1996:291). She also shows a generalised neurotic response pattern (phobias, sleep disturbances, psychosomatic complaints). This correlates with factors Q4 (a measure of anxiety and tension) and factor O (a measure of guilt proneness).

Factor G is a measure of group conformity (Golden 1979:112). Cathy's score points to disregard for rules, indifference and fickleness (Smit 1996:293). She is likely to be self indulgent, undependable and disregards obligations to people. Cathy is inclined to quit and can be described as slack and indolent (Cattell et al 1970:88). She appears generally unconcerned about group standards and morals (Golden 1979:112). According to Cattell et al (1962:15) freedom from group influences in the person with a low factor G-score may lead to antisocial behaviour. This correlates with factor Q1 (a measure of rebelliousness) and Q3 (a measure of control).

Factor Q3 points to the extent to which the individual is capable of the behaviour society prescribes. A low Q score is in essence uncontrolled emotionality and excitability (Smit 1996: 299). Cathy is likely to be uncontrolled and careless of social rules. She is inclined to follow her own urges (Golden 1979:115) and is not overly considerate or careful (Cattell et al 1962:18). Her score is associated with over-reactivity. Cathy is not able to handle stress productively and she may have difficulty in large organizations in which responsibility is an important factor (Golden 1979:116). This correlates with factors G (a measure of group conformity), Q1 (a measure of rebelliousness) and factor C (a measure of ego strength).

Cathy obtained 2 high scores of 9 for factors E and Q4 respectively. Factor E is suggested as a measure of dominance. Cathy tends to be assertive, self confident and independent minded (Cattell et al 1970:86). She is headstrong and is likely to be rebellious (Golden 1979:111) and disregard authority (Cattell et al 1962:14). Cathy is likely to feel free to participate in a group (Cattell et al 1970:86). This correlates with factors M (a measure of imagination), Q1 (a measure of rebelliousness) and H (a measure of boldness) however it is in conflict with factor O (a measure of guilt proneness).

Factor Q4 is a measure of free floating anxiety and tension (Golden 1979:116). Cathy's score implies that she may be characterised by tension, frustration and a generally highly anxious approach to problems (Golden 1979:116). She is likely to be restless, irritable and impatient with an inability to remain inactive (Cattell et al 1962:18). This correlates with factor O (guilt proneness) and factor C (a measure of ego strength) but it conflicts with factors M (a measure of imagination), Q1 (a measure of rebelliousness) and E (a measure of dominance).

In addition Cathy obtained three low scores on factors A (sten of 2), B (sten of 2) and I (sten of 3). Factor A is theoretically a measure of warmth (Golden 1979:110). Cathy seems to have a tendency to be cautious in her experience of emotions, is inflexible and critical in her view of life and is aloof in her behaviour towards others (Smit 1996:290). She likes things rather than people, prefers working alone and avoids compromises of viewpoints. She is likely to be precise and rigid in her way of doing things and in personal standards. Cathy can be described as hard or emotionally detached (Cattell et al 1962:13). This concurs with factor I (a measure of emotional sensitivity).

Factor B is a measure of intelligence. It appears that Cathy is likely to learn slowly and acquire insight with difficulty (Smit 1996:290). Cathy tends to be of lower self- esteem, is likely to be less organised and to quit as opposed to persevering. She appears unable to handle abstract problems (Golden 1979:110-111). This "bluntness" may be indicative of a low intellectual ability or poor functioning as a result of psychopathology (Smit 1996:290). This appears to correlate with factors C (a measure of ego strength) and factor G (a measure of group conformity) where she is described as inclined to quit and being slack. However it conflicts with factor M (a measure of imagination).

Factor I is a measure of emotional sensitivity. Cathy tends to be tough minded, responsible and independent (Golden 1979:113). She is likely to be realistic, is unaffected by fancies and acts on practical and logical grounds (Cattell et al 1970:93). She may sometimes be unsentimental, hard to the point of cynicism and self-complacent (Cattell et al 1962:15). This corresponds with factor A (a measure of warmth).

On the outer boundaries of truly average, that is stens of 4 and 7, Cathy obtained three high average scores of 7 in factors F, H and L. Factor F is a measure of impulsivity. Her score suggests that she is likely to be cheerful, energetic and talkative. She is inclined to be enthusiastic and is group involved (Golden 1979:112). However she may also be impulsive and erratic (Cattell et al 1962:14). This correlates with factor H (a measure of boldness).

Factor H represents the concept of boldness. Cathy is inclined to be socially bold, jovial and adventurous (Golden 1979:112). She can be described as spontaneous, impulsive and ready to

try new things (Cattell et al 1962:15). This correlates with factors F (a measure of impulsivity) and factor E (a measure of dominance).

Factor L is a measure of suspiciousness. Cathy's score implies that she is likely to be suspicious, frustrated and irritable (Golden 1979:113). She is often involved in her own ego and is self opinionated. She is usually deliberate in her actions, is unconcerned about other people and is a poor team member (Cattell 1962:16). This is in direct conflict with factors F (a measure of impulsivity) however it correlates with factor G (a measure of group conformity) where she is described as self indulgent. (*See graphic representation*).

7.4.2.1. *INTERPRETATION OF INTERFACTOR RELATIONSHIPS*

1. O+; G- [A high score on factor O (a measure of guilt proneness) accompanied by a low score on factor G (a measure of group conformity)].

- ♦ Cathy appears to typify herself as a “rebel” and “free thinking” however she experiences guilt feelings in expressing this behaviour. In other words, she has a punitive super ego (Smit 1996:302).

2. C-; H+; G-; Q3- [A low score on factor C (ego strength) accompanied by a high score on factor H (social presumption) and low scores on factor G (group conformity) and factor Q3 (self sentiment)].

- ♦ It seems that Cathy displays antisocial behaviour and may possess a psychopathic quality (Smit 1996:301) now referred to as a conduct disorder or an antisocial personality disorder on the DSM-IV (1994: 85;684).

3. G-; Q3- [A low score on factor G (group conformity) accompanied by a low score on factor Q3 (self sentiment)].

Low scores on factors G (group conformity) and Q3 (self sentiment) indicate weak impulse control. This problem is aggravated if the score is low on factor C (ego strength) and high on factor O (guilt proneness) (as in Cathy's case) (Smit 1996:303).

- ♦ It appears that Cathy is unable to manage the demands of everyday life effectively. The essence here seems to be an inability to control her emotions and impulses and to find a realistic outlet for them. Essentially it boils down to the fact that things happen without Cathy being in control, with resultant guilt feelings (Smit 1996:301).

4. C-; +Q4 [A low score on factor C (a measure of ego strength) accompanied by a high score on factor Q4 (a measure of anxiety and tension)].
- ♦ Cathy tends to be stubborn, sensitive and sarcastic. She tends to criticize and reject people and their ideas and may come across as being hostile. There is a possible presence of passive-aggression. Cathy appears to be a reserved person.
5. +E +F -G +H [High scores on factors E (dominance), F (impulsivity) and H (boldness) accompanied by a low score on factor G (group conformity)].
- ♦ Cathy tends to be impulsive and is curious. She likes to try new things and enjoys new experiences, surprises and adventures. Cathy tends to take chances, sometimes with negative consequences. Every now and then she does dangerous things that are not to her advantage and does herself injustice.

7.4.2.2. *SECOND ORDER FACTORS*

Anxiety (factor QII)

Cathy obtained an extreme score of 9. Since this factor is the most important indicator of pathology on the 16 PF a very high anxiety score should not be ignored. Any person with a low ego strength (factor C-), high mistrust (factor L+), a high tendency towards guilt feelings (factor O+), a high level of free flowing anxiety (factor Q4+) and an inability to tie down and channel this anxiety (factor Q3) has serious problems (Smit 1996:283).

A high score on Factor Q4 (high impulse level) is in itself an indication of a high level of anxiety. The score on factor C (ego weakness) is very important. Madge (1983:41) points out that a high score on this factor is a good prognosis for psychotherapy, "since it will be clear that the person's defence organisation is adequate to handle his problem in a more constructive manner." The higher a person's ego strength, the better he is able to handle great pressure effectively. In Cathy's instance, it does not appear that she is able to handle great pressure effectively at all. A very high anxiety level coupled with a very low score on factor C indicates a potential ego disintegration (Smit 1996:284).

Independence (factor QIV)

Cathy obtained a high score of 8 on factor QIV, a measure of independence. This is an indication that she is a person who is difficult to get along with. The reason is that she is not

simply aggressively independent, but chooses and enjoys doing things in her own individual manner: "I'll do my own thing and in my own way" (Smit 1996:285). Cattell and Eber (1962:14) state that: "She will seek situations where such behaviour is at least tolerated and possibly rewarded."

Compulsivity (factor QVII)

Cathy obtained a very low score of 1. It seems that Cathy may have sociopathic tendencies (Golden 1979:118) - now referred to as conduct disorder or antisocial personality disorder on the DSM-IV- an important question in many clinical examinations.

(See figure 7.4).

7.4.2.3. SUMMARY

There is a lot of conflict present in Cathy's profile. She appears emotionally imbalanced and maladjusted. Cathy seems uncontrolled and incapable of the behaviour which society prescribes. She displays antisocial, unstable behaviour and possesses an irrational sense of guilt. She appears distressed, hostile, anxious and in turmoil. She feels inadequate and seems unable to cope with the demands of life.

Cathy has serious problems and may verily have a personality disorder. Personality disorders, in general, appear to be extreme or exaggerated patterns of personality traits that predispose an individual to troublesome behaviour- often of an interpersonal nature (Carson & Butcher 1992:292). Therapy is definitely recommended. Since Cathy scored chronically high on factor O (guilt proneness), it does not seem that she will respond well to traditional psychotherapy and is better off with directive counselling and behavioural therapy aimed at eliminating the behaviours that cause her guilt and anxiety or depression (Golden 1979:115).

7.4.3. VALUES SCALES

Cathy deemed autonomy (9) as especially important, wanting to make her own decisions and having independence of action within her sphere. She expressed the want to have the freedom to live her own life according to her own standards and values (own lifestyle, 8). Cathy enjoyed the excitement of danger and risks incurred in activities undertaken or carried out (risk, 8). She did not place much importance on spirituality or living her life according to

religious principles (2). She did not feel the need to help others and be concerned about their welfare (altruism, 2) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.5).

7.4.4. SELF CONCEPT

Cathy possessed a low self concept, stanine of 3. The following negative factors emerged from the various dimensions of the self concept test.

7.4.4.1. PHYSICAL SELF - relations with one's physical condition.

- ♦ Cathy is usually aware of feeling unwell.
- ♦ She is easily worried.
- ♦ She dislikes always being neat.
- ♦ She is usually untidy.

7.4.4.2. PERSONAL SELF- relations with one's psychological condition.

- ♦ Cathy is only cheerful when things go well.
- ♦ She can never defend her viewpoint in a calm and composed manner.
- ♦ She easily loses all self control.
- ♦ She always feels inferior in company.
- ♦ Cathy is often peevish and moody for long periods.
- ♦ She is always afraid that she will not be able to solve her problems.
- ♦ She often experiences despair because she does not keep to her principles.
- ♦ She can never persevere with a task until it is finished.
- ♦ She often acts without first considering the consequences of her deeds.
- ♦ She easily changes her opinions.

7.4.4.3. FAMILY SELF- relations with one's family and relatives.

- ♦ Cathy feels that her family is suspicious of everything that she does.
- ♦ She frequently misunderstands the members of her family.
- ♦ She is very sensitive to what her family says about her.
- ♦ She does not take much interest in her family.
- ♦ She usually ignores the wishes of her parents.
- ♦ She sometimes has serious quarrels with members of her family.
- ♦ Her family criticise her often.

7.4.4.4. SOCIAL SELF - relations with others in the social community.

- ◆ Cathy is not always friendly.
- ◆ She often wishes that she could be more sociable.
- ◆ She feels that others find it difficult to make friends with her.
- ◆ She often finds herself lacking in courtesy.
- ◆ She is usually unpopular, her company is seldom sought.
- ◆ She wishes that others would show interest in her more often.
- ◆ She does not usually make friends very easily.
- ◆ Her relationships are easily disturbed by trivialities.
- ◆ She finds it difficult to enter in a conversation with strangers.
- ◆ She often feels that she is angry with the whole world.

7.4.4.5. MORAL SELF- relationship to moral and religious values, that is moral-ethical self.

- ◆ Cathy worries about her behaviour which often leaves much to be desired.
- ◆ She often feels guilty about her frequent irresponsible behaviour.
- ◆ She often continues with behaviour even if she knows it to be wrong
- ◆ Cathy is not very religious.
- ◆ She constantly worries about her religion.
- ◆ She feels guilty because she seldom goes to Church.
- ◆ Cathy does not trouble to return change when it is too much.
- ◆ She often feels guilty because she neglects the virtues of honesty, integrity, loyalty, truthfulness.

(See figure 7.6).

7.4.5. SENSE OF PERSONAL IDENTITY

Cathy obtained a significantly lower raw score of 47 on the personal identity scales which is an indication that she is still progressing through the identity development stage.

7.4.6. PERSONAL IMAGE

Cathy is a distinctively individualistic person who may be described as Bohemian. She is self motivated, imaginatively creative and unconventional. Nevertheless, despite being normally oblivious of physical realities, she can also be realistic and tough minded. She is inclined to be

Figure 7.5:

Values Scales Profile of Subject 2 - Cathy

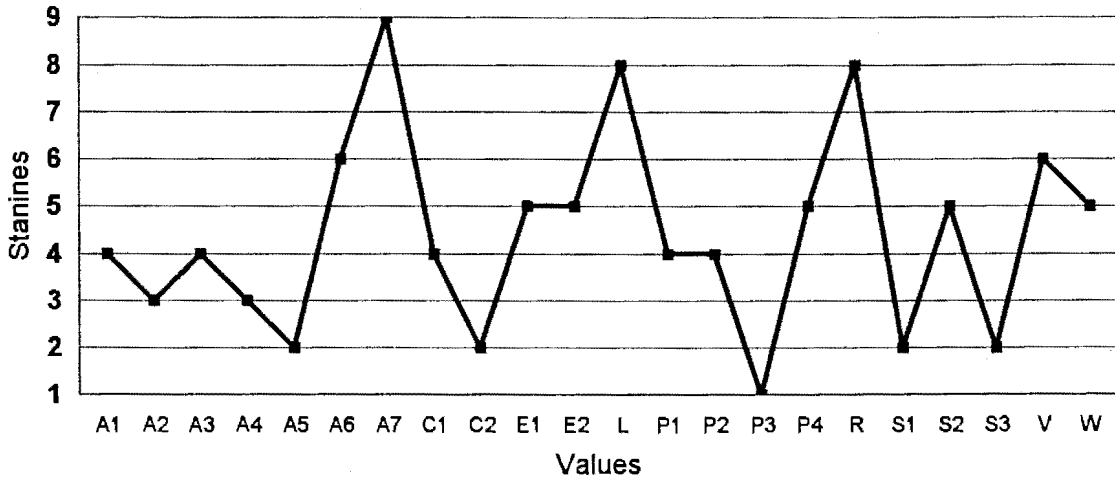
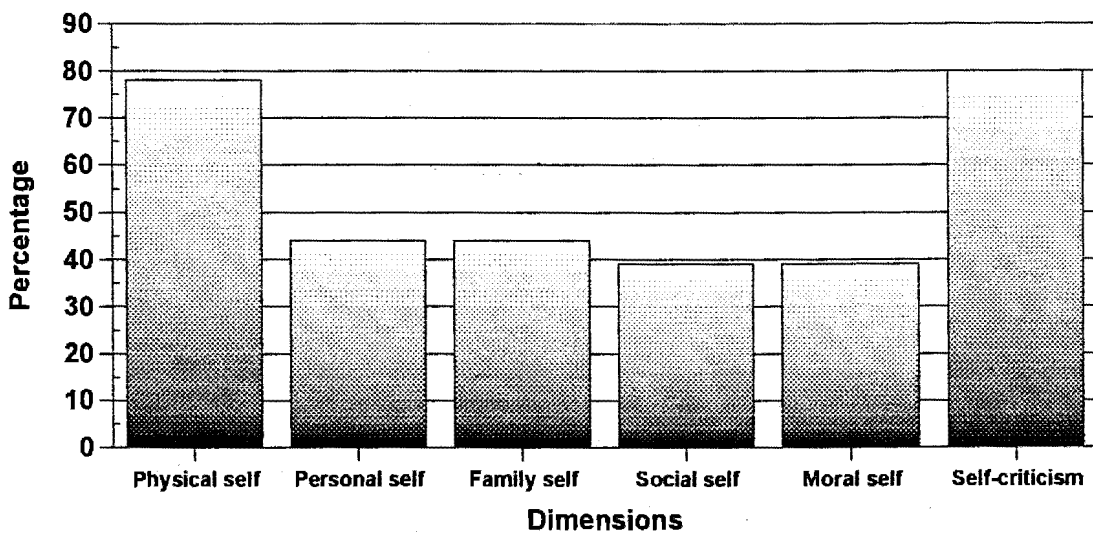


Figure 7.6:

Dimensions of the self concept - Cathy



highly self-reliant and assertive and may be described as shrewd. Cathy is a free thinker who is strongly inclined to question and often discount traditional beliefs. She is likely to be experimental in her approach to life. Cathy is headstrong and tends to be uncontrolled. She appears to demonstrate small regard for social rules. Her unconventionality in many matters and her individuality may generate rejection by others. As a result, she may feel maladjusted socially. Cathy can be described as a reserved and aloofly critical person who is inclined to be frustrated by extensive interpersonal contacts. On the whole, Cathy appears to have a small repertoire of acceptable behaviours. Although Cathy typifies herself as a “rebel” and “free thinking”, she experiences guilt feelings in expressing this behaviour. Emotionally, she appears to be a self-deprecating individual who tends to worry excessively. She is irrational, emotionally very sensitive and seems unable to manage the demands of everyday life effectively. Cathy tends to feel inadequate and inferior and blames herself when things go wrong. She appears to be extremely anxious and irritable. She tends to be restless and is likely to feel unsatisfied. Cathy appears to lack patience, perseverance and self-control. She may merit clinical evaluation.

7.5. CASE STUDY 3: MICHELLE (female)

7.5.1. Background

Michelle is 18 years old and presently in grade 12. She was first introduced to Ecstasy by an older girlfriend at the age of 15. At first, she did not enjoy the drug because it made her vomit. Nevertheless, a year later (in grade 10), she tried Ecstasy again and has now been taking it for two years. Michelle spoke openly about her sexual orientation and believes that Ecstasy has helped her accept her homosexuality.

7.5.2. 16 PF- PERSONALITY QUESTIONNAIRE

Of the sixteen possible scores, 2 of Michelle's scores are truly average, that is between stens of 5 and 6, indicating a clear absence of suppressed personality traits. Michelle obtained two extreme scores of 1 and 10 on factors B and Q1 respectively.

Factor B is a measure of intelligence. It appears that Michelle tends to learn slowly, acquires insight with difficulty and is concrete in her behavior (Smit 1996:290). She is likely to be of lower morale, less well organized and quits as opposed to persevering. She appears unable to handle abstract problems (Golden 1979:110-111). Her poor score may be associated with

anxiety, inability to concentrate as well as poor intelligence (Golden 1979:111). This appears to correlate with factor M (a measure of imagination). However it contradicts factor Q1. This may be an indication that Michelle is anxious and not of lower intellectual ability.

Factor Q1 is a measure of rebelliousness (Golden 1979:115). Extreme scores may be associated with radicalism and an inability to accept authority (Golden 1979:115). Michelle appears to be free thinking, inquiring (Smit 1996:298) and is generally more well informed (Cattle 1962:17). She tends to experiment and be less moralising (Cattell et al 1962:17). She is likely to be more tolerant of change (Cattell et al 1962:17). Although this corresponds with factor E (a measure of dominance) it nevertheless conflicts with factor M (a measure of imagination) where Michelle is described as conventional and conservative.

Michelle obtained high scores of 8 on factors Q2 and Q4. Factor Q2 is a measure of self sufficiency. Michelle appears to be a self sufficient individual who prefers depending on her own resources and her own judgements (Golden 1979:115). She is resolute and accustomed to going her own way, making her own decisions and taking action on her own. She disregards public opinion but is not necessarily dominant in her relations with others (Cattell et al 1962:17). This contradicts factor C (a measure of ego strength) however it correlates with factor A (a measure of warmth).

Factor Q4 is a measure of free floating anxiety and tension (Golden 1979:116). Michelle's score implies that she is characterised by tension, frustration and a generally highly anxious approach to problems (Golden 1979:116). She is likely to be restless, irritable and impatient with an inability to remain inactive (Cattell et al 1962:18). This correlates with factor C (a measure of ego strength) and factor M (a measure of imagination) however it conflicts with Q2 (a measure of self sufficiency).

Michelle obtained two low scores of 2 and 3 on factors M and C respectively. Factor M is a measure of imagination (Golden 1979:114). This suggests that she is conventional, practical and someone who is guided by objective realities (Smit 1996:296). She tends to be anxious to do the right things and avoids anything far-fetched (Cattell et al 1962:16). Michelle is likely to be serious minded, conservative and someone who is not overly imaginative or far seeing

(Cattell et al 1970:98). This clashes with factor Q1 (a measure of rebelliousness) however it appears to correlate with factor I (a measure of emotional sensitivity).

Factor C is described by Cattell (1970:83) as a measure of ego strength. Michelle's score is suggestive of an inability to handle frustration and a general emotional lability. She tends to evade responsibility, is inclined to worry unduly and gives up (Golden 1979:111). Michelle is changeable in attitudes and interests and is easily perturbed. She appears easily irritated by people and things and is dissatisfied with the world's situation and her family (Smit 1996:291). Her score is suggestive of a general inability to deal with stress (Golden 1979:111). This confirms her score on factor Q4 (a measure of free floating anxiety and tension) however it contradicts factor Q2 (a measure of self sufficiency).

On the outer boundaries of average, that is stens of 4 and 7, Michelle obtained low average scores of 4 on factors A, G, I, L, N and Q3.

Factor A is theoretically a measure of warmth (Golden 1979:110). Michelle seems to have a tendency to be cautious in her experience of emotions, is inflexible and critical in her view of life and is aloof in her behaviour towards others (Smit 1996:290). She is likely to be precise and rigid in her way of doing things and in personal standards (Cattell et al 1962:13). Michelle may be described as hard or emotionally detached (Cattell et al 1970:81). Although this conflicts with factor C (a measure of ego strength) it nevertheless appears to correspond with factor Q2 (a measure of self sufficiency).

Factor G is a measure of group conformity (Golden 1979:112). Michelle is likely to be self-indulgent, undependable (Golden 1979:112) and disregard obligations to people (Cattell et al 1970:88). She may be generally unconcerned about group standards or morals (Golden 1979:112). Michelle is inclined to quit and can be described as slack and indolent (Cattell 1970:88). This contradicts factors L (a measure of suspiciousness) and N (a measure of shrewdness) however it appears to correlate with factor B (a measure of intelligence) where Michelle is described as "quitting" as opposed to persevering.

Factor I is a measure of emotional sensitivity (Golden 1979:113). It appears that Michelle is inclined to be tough minded (Golden 1979:113), responsible and independent (Cattell et al 1962:15). She is likely to be realistic and act on practical, logical grounds. She may sometimes

be unsentimental, hard to the point of cynicism and self complacent (Cattell et al 1970:93). This conflicts with factor N (a measure of shrewdness) however it correlates with factor A (a measure of warmth) and Q2 (a measure of self sufficiency).

Factor L is a measure of suspiciousness (Golden 1979:113). Michelle tends to be trusting and accepting (Smit 1996:296). She is free of jealous tendencies (Cattell et al 1962:16), is tolerant and generally uncritical (Golden 1979:113). She can be described as easy going, friendly and relaxed (Cattell et al 1970:97). She is concerned about other people, is understanding and permissive (Cattell et al 1970:96). Michelle is a good team worker (Cattell et al 1962:16). Although this correlates with factor N (a measure of shrewdness) it nevertheless conflicts with factor G (a measure of group conformity).

Factor N is a measure of shrewdness. Michelle may be described as a genuine person with a natural warmth and liking for people (Cattell et al 1970:101). She is inclined to get emotionally involved easily, is very trusting and is unskilled in analysing others' motives. She tends to be spontaneous and natural. She is sometimes socially clumsy but is easily pleased and content with what comes (Cattell et al 1970:99). This corresponds with factor L (a measure of suspiciousness) however it conflicts with factor I (a measure of emotional sensitivity).

Factor Q3 points to the extent to which the individual is capable of the behaviour society prescribes (Smit 1996:299). It appears that Michelle may lack control, be careless with respect to social rules and tends to follow her own urges (Golden 1979:115). She is not likely to be overly considerate or careful in her actions (Cattell 1962:18). Although this conflicts with factor M (a measure of imagination), it nevertheless correlates with factor Q1 (a measure of rebelliousness).

Michelle obtained high average scores of 7 on factors E and O. Factor E is a measure of dominance. Michelle appears likely to be assertive, self confident and independent minded (Cattell et al 1962:14). She is headstrong (Smit 1996:292) and tends to be rebellious (Golden 1979:111) and to disregard authority (Cattell et al 1962:14). She feels free to participate in a group (Cattell et al 1970:86). This conflicts with factor M (a measure of imagination) however it corresponds with factor Q1 (a measure of rebelliousness).

Factor O is a measure of guilt proneness. Michelle's score is suggestive of a troubled individual who is insecure and likely to be depressed (Golden 1979:114). She displays a child like tendency to anxiety in difficulties (Cattell et al 1962:17) and is easily downhearted. She tends to blame herself (Smit 1996:297) and is sensitive to the approval and disapproval of others (Golden 1979:114). She does not appear to feel accepted in groups or free to participate (Cattell et al 1962:14). This conflicts with factor E (a measure of dominance) however it confirms factor Q4 (a measure of free floating anxiety and tension) and factor C (a measure of ego strength).

7.5.2.1. *INTERFACTOR RELATIONSHIPS*

There were no interfactor relationships of significance.

7.5.2.2. *SECOND ORDER FACTORS*

Anxiety (factor QII)

Michelle obtained a high average score of 6.8, that is a stanine of 7 on factor QII, a measure of anxiety. This anxiety could be situational but it is probable that she has some maladjustment, that is, she is dissatisfied with the degree to which she is able to meet the demands of life and to achieve what she desires (Cattell et al 1962:21).

Tough poise (factor QIII)

Michelle obtained a high score of 8. This is suggestive of an enterprising, resolute and resilient personality who does not appear to be easily swayed by feelings (Cattell et al 1962:22). A high score on this second stratum factor is an indication that Michelle is generally aloof, tough and less inclined to fantasy. She is therefore inclined to handle problems in a rational and objective manner (Smit 1996:284-285). However she is likely to miss the subtle relationships of life and to orient her behaviour too much toward the obvious. If she has difficulties they are likely to involve rapid action with insufficient consideration and thought (Cattell et al 1962:22). However this conflicts with factors C (a measure of ego strength), O (a measure of guilt proneness), Q4 (anxiety), and the second stratum factor of QII (also a measure of anxiety). It may be that Michelle's anxiety is associated with transient situational disturbances.

Independence (factor QIV)

Michelle obtained a high score of 8 on factor QIV, a measure of independence. She tends to be an assertively, independent, adventurous person (Cattell et al 1962:22). She is a person who is generally difficult to get along with. The reason is that she is not simply aggressively independent but chooses and enjoys doing things in her own individual manner: "I'll do my own thing and in my own way." (Smit 1996:285). Michelle will seek those situations where such behaviour is at least tolerated and possibly rewarded, and is likely to exhibit considerable initiative (Cattell et al 1962: 22). (See figure 7.7).

7.5.3. VALUES SCALES

Michelle needs the opportunity to develop her talents and skills (ability utilization, 7). She wishes to enhance and enjoy the beauty of processes, products and surroundings, both natural and man-made (aesthetics, 7). She wants to have a stable income and to be assured of being able to survive difficult economic times (economic security, 7). Michelle wishes to develop and have plans about what she wants to do with her life (personal development, 7). She did not place much importance on helping others and being concerned about their welfare (altruism, 3). She did not appear to perceive risk as being of any significance and did not appear to enjoy the excitement of danger in activities undertaken (risk, 2) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.8).

7.5.4. SELF CONCEPT SCALE

On the total scale Michelle obtained a stanine of 2 which is indicative of a very low self concept. The following negative factors emerged in the different dimensions of the self concept test:

7.5.4.1. PHYSICAL SELF - relations with one's physical condition.

- ◆ Michelle is seldom completely well.
- ◆ She is usually aware of feeling unwell.
- ◆ She is usually aware of pain somewhere in her body.
- ◆ She feels dissatisfied because she is often unwell.
- ◆ She feels tired and lethargic most of the time.
- ◆ She is easily worried.
- ◆ Michelle considers herself unattractive.

Figure 7.7:

Personality Profile of Subject 3 - Michelle

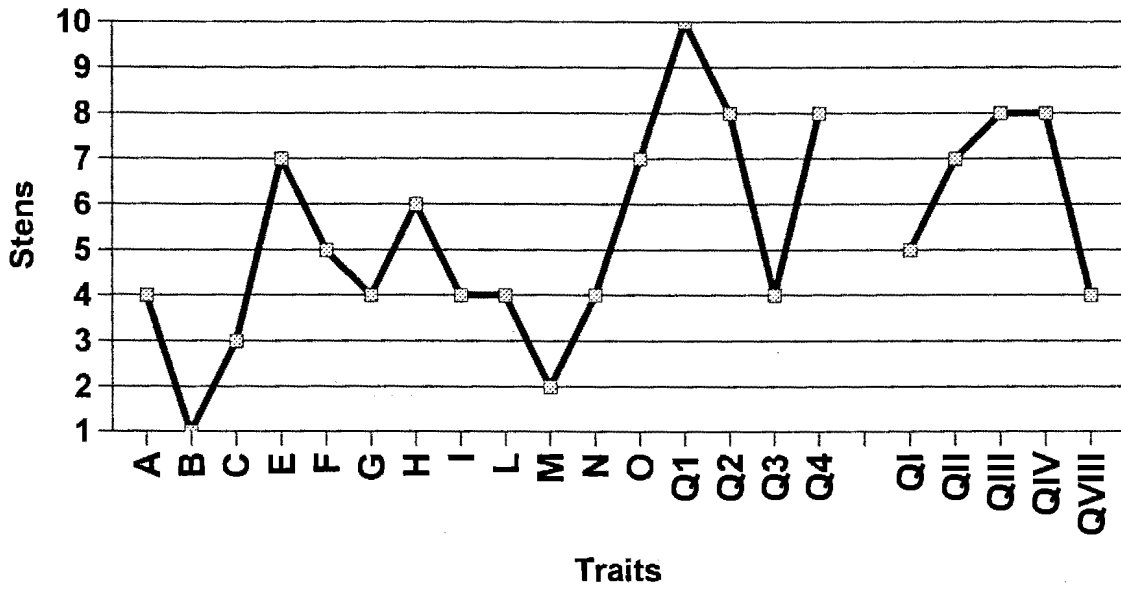
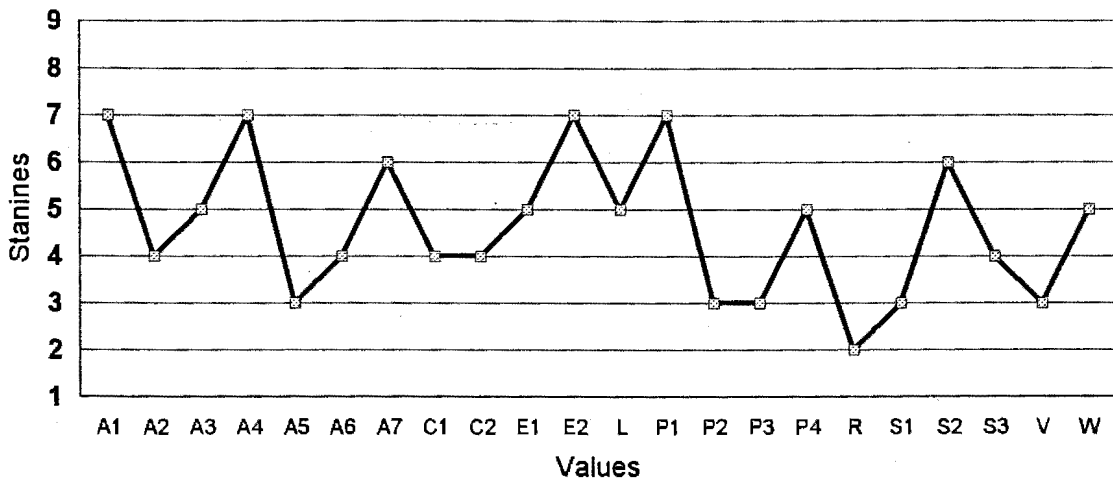


Figure 7.8:

Values Scales Profile of Subject 3 - Michelle



- ♦ She often feels worried about her weight.
- ♦ She does not feel happy about her appearance.
- ♦ She feels dissatisfied with certain aspects of her physical appearance and would change them if she could.
- ♦ She often feels guilty because she neglects her body.
- ♦ She is very clumsy and awkward in certain situations.

7.5.4.2. PERSONAL SELF- *relations with one's psychological condition.*

- ♦ Michelle is only cheerful when things go well.
- ♦ She can never defend her viewpoint in a calm and composed manner.
- ♦ She feels inferior to her friends and acquaintances in many ways.
- ♦ She always feels inferior in company.
- ♦ She is not satisfied with herself.
- ♦ She is not as friendly to everyone as she would like to be.
- ♦ She is always afraid that she will not be able to solve her problems.
- ♦ She often experiences despair because she does not keep to her principles.
- ♦ She finds it difficult to hold her own in all situations.
- ♦ She cannot tolerate rebuke.
- ♦ She often acts without first considering her actions.
- ♦ She usually finds it very difficult to reach a decision.

7.5.4.3. FAMILY SELF- *relations with one's family and relatives.*

- ♦ Michelle's family is not very happy.
- ♦ She feels that she is unimportant in the eyes of her family.
- ♦ Her family seldom ask her opinion.
- ♦ She does not look forward to family gatherings.
- ♦ She is usually suspicious of her family's conversations and conduct.
- ♦ She is very sensitive to what her family says about her.
- ♦ She often neglects her parents.
- ♦ She usually ignores the wishes of her parents.
- ♦ She sometimes has serious quarrels with members of her family.
- ♦ Michelle's family criticize her often.

7.5.4.4. SOCIAL SELF - *relations with others in the social community.*

- ◆ Michelle is not always friendly.
- ◆ She is not very popular amongst friends of her own sex.
- ◆ She often feels that she is angry with the whole world.
- ◆ She often wishes that she could be more sociable.
- ◆ She is usually reserved and self-conscious with strangers and particularly with people in authority.
- ◆ Michelle's relationships are easily disturbed by trivialities.
- ◆ She always finds it difficult to forgive someone who has accused her falsely.
- ◆ She always feels self conscious in the company of strangers.

7.5.4.5. MORAL SELF- *relationship to moral and religious values, that is moral-ethical self.*

- ◆ Michelle is not very religious.
- ◆ She is someone who does not feel particularly guilty if compelled to tell a small lie.
- ◆ She is hardly aware of the poor, cripples and blind people and ignores rather than helps them.
- ◆ Michelle sometimes uses questionable methods in order to be ahead.
- ◆ She often feels guilty because she neglects to observe the virtues of honesty, integrity, loyalty and truthfulness.
- ◆ Michelle often continues with her behaviour even though she knows it to be wrong.
- ◆ She often feels guilty about her frequent irresponsible behaviour.
- ◆ She never has the courage to rebuke people.
- ◆ She often feels unhappy because her life does not measure up to the high standards which others set for her.

(See figure 7.9).

7.5.5. SENSE OF PERSONAL IDENTITY

Michelle obtained a raw score of 47 (deviation of 9) on the personal identity scales. It is a significantly lower score suggesting that she is still progressing through the identity development stage.

Figure 7.9:

Dimensions of the self concept - Michelle

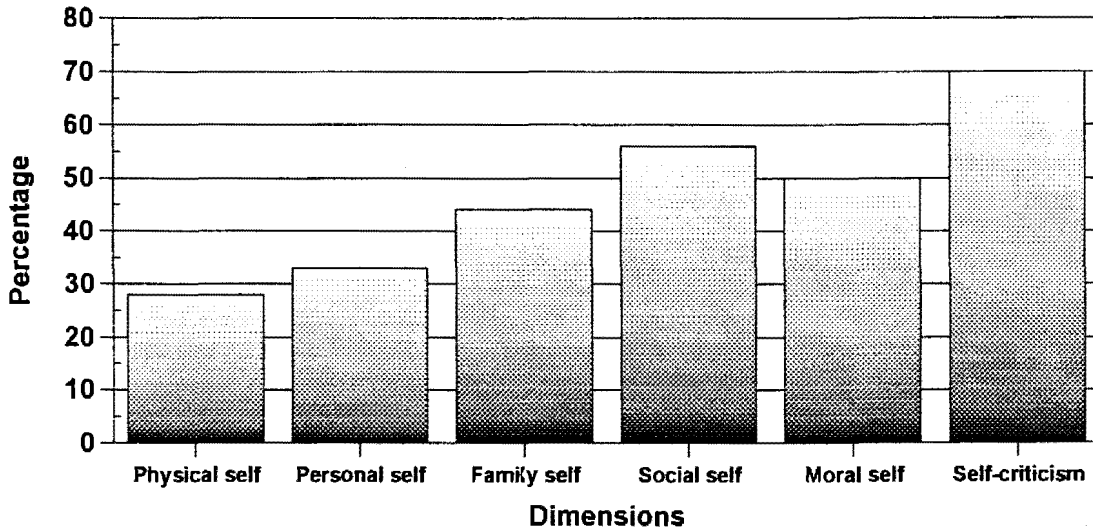


Figure 7:10:

Personality Profile of Subject 4 - Mark



7.5.6. PERSONAL IMAGE

Michelle is an independent minded individual who tends to be curious and experimental in her approach to life. She may also display a disregard for rules. Michelle is decisive and resourceful and prefers depending on her own judgements. She is very self-reliant and disregards public opinion. She is therefore inclined to feel uncomfortable when working as a member of a team and may feel maladjusted socially. Michelle tends to be realistic and tough minded and may be described as shrewd. She tends to be aloof and is inclined to be frustrated by extensive interpersonal contacts. Although generally difficult to get along with, Michelle is not necessarily dominant in her relations with others. She can also be adaptable, friendly and helpful to associates. Despite her tendency to be experimenting, Michelle nevertheless seems to be conventional and matter of fact in manner and is inclined to be guided by objective realities. To some degree, Michelle lacks patience, perseverance and self control. She tends to be easily upset and is likely to be temperamental. She appears to be a tense individual who is easily annoyed by trivial matters. Michelle is possibly disappointed in life and is likely to feel unsatisfied. She is not sufficiently emotionally stable to deal with stress and handle crises.

7.6. CASE STUDY 4: MARK (male)

7.6.1. Background

Mark is a 19 year old plumbing apprentice and a keen surfer. He was initially exposed to drugs at age 14 (grade 9), mainly marijuana and LSD. He took his first Ecstasy pill at a Rave aged 16. He subsequently became involved in dealing Ecstasy, initially to his peers at school and later to patrons at Raves. Mark earned quick, easy money considering the high demand for the drug. After being caught by the narcotics police at a club raid last year, Mark no longer deals drugs however he still consumes Ecstasy for recreational purposes.

7.6.2. 16 PF- PERSONALITY QUESTIONNAIRE

Of the 16 possible scores, 6 of Mark's scores are truly average, that is tens of 5 and 6, indicating an absence of suppressed personality traits.

Mark scored an extreme score of 1 on factor B which is a measure of intelligence. Mark is likely to learn slowly, acquire insight with difficulty and is concrete in his behaviour (Smit 1996:290). He appears unable to handle abstract problems (Golden 1979:110). He tends to be less organised and quits as opposed to persevering (Golden 1979:110-111). This "bluntness" may be indicative of a low intellectual ability or poor functioning as a result of

psychopathology (Cattell et al 1962:13). This appears to correlate with factor G (a measure of group conformity).

Mark obtained 4 low scores on factors G, L, N and Q3 respectively.

Factor G is a measure of group conformity (Golden 1979:112). Mark's score of two, points to disregard for rules, indifference and fickleness (Smit 1996:293). He is likely to be self-indulgent, undependable (Golden 1979:112) and disregards obligations to people. He is inclined to quit and can be described as slack and indolent (Cattell et al 1970:88). According to Cattell et al (1962:15) freedom from group influences in the person with a low Factor G-score may lead to antisocial behaviour. This is in accordance with factors Q1 (a measure of rebelliousness) and Q3 (a measure of control) however it conflicts with factor L (a measure of suspiciousness).

On factor L (a measure of suspiciousness) Mark scored a 3. This suggests that he is trusting and accepting (Smit 1996:296). Mark accepts personal unimportance as opposed to being jealous, is tolerant and generally uncritical (Cattell et al 1970:96). He is concerned about other people and is a good team worker. Mark can be described as easygoing, friendly and relaxed. He appears to lack ambition and striving (Cattell et al 1970:97). Although this conflicts with factor G (a measure of group conformity), it nevertheless correlates with factor N (a measure of shrewdness).

Factor N is a measure of shrewdness. Mark's score of two suggests that he can be described as a genuine person with a natural warmth and liking for people. He is inclined to get easily emotionally involved, is very trusting and is unskilled in analysing others' motives. He tends to be spontaneous and natural. He is sometimes socially clumsy but is easily pleased and content with what comes (Cattell et al 1970:99). This corresponds with factor L (a measure of suspiciousness) and factor A (a measure of warmth), however it appears to conflict with factor G (a measure of group conformity).

Factor Q3 points to the extent to which the individual is capable of the behaviour society prescribes (Smit 1996:299). Mark obtained a score of 3 indicating a lack of control, a carelessness with respect to social rules and a tendency to follow his urges (Golden 1979:115). He is not inclined to be overly considerate or careful. Mark may feel maladjusted

(Cattell et al 1962:18). It appears that he is not able to handle stress productively (Golden 1979:116). This concurs with factors G (a measure of group conformity), Q1 (a measure of rebelliousness) and factor C (a measure of ego strength).

Mark obtained a high score of 8 on factor Q1. Factor Q1 is a measure of rebelliousness. This suggests that Mark is inclined to be liberal, free thinking (Golden 1979:115) and less moralising (Cattell et al 1970:104). Mark tends to experiment in life and is likely to be more tolerant of inconvenience and change (Cattell et al 1962:17). This correlates with factors Q3 (a measure of control).

Mark's scores which fall on the outer boundaries of average, that is scores of 4 and 7, are as follows. Mark obtained three high average scores of 7 on factors A, M and Q2.

Factor A is theoretically a measure of warmth. Mark appears to be a good natured, warmhearted, individual who is trustful and attentive to people (Golden 1979:110). He is outgoing, generally likes to be around people and is generous in personal relations (Cattell et al 1962:13). Although this confirms factors N (a measure of shrewdness) and F (a measure of impulsivity), it nevertheless conflicts with factor G (a measure of group conformity).

Factor Q2 is a measure of self sufficiency. Mark appears to be a self sufficient individual who prefers depending on his own resources and his own judgements (Golden 1979:115). He is resolute and accustomed to going his own way, making his own decisions and taking action on his own (Cattell et al 1970:105). He disregards public opinion but is not necessarily dominant in his relations with others. He does not dislike people but simply does not need their agreement or support (Cattell et al 1962:17). In group dynamics, Mark appears more dissatisfied with group integration and tends to be rejected (Cattell et al 1970:105). This correlates with factor M (a measure of imagination) where Mark's individuality tends to cause him to be rejected in group activities.

Factor M is a measure of imagination. Mark may be described as Bohemian. He appears self-motivated, creative and unconventional. He is unconcerned over everyday matters. Instead he is concerned with "essentials" and is oblivious of particular people and physical realities (Cattell et al 1962:16). Mark may be easily diverted from practical judgement and is

inclined to be absentminded (Smit 1996:296). His individuality tends to cause him to be rejected in group activities (Cattell et al 1962:16). This corresponds with Q2 (a measure of self sufficiency).

Mark obtained a low average score of 4 on factor C. Factor C is described by Cattell (1962:14) as a measure of ego strength. His score is suggestive of an inability to handle frustration and a general emotional lability. Mark is likely to evade responsibility and displays a tendency to worry and give up. To be easily affected by feelings suggests an inability to deal with stress (Golden 1979:111). This correlates with factor Q3 (a measure of control) and factor G (a measure of group conformity) however it conflicts with factor Q2 (a measure of self sufficiency).

7.6.2.1. INTERFACTOR RELATIONSHIPS

There were no interfactor relationships of significance.

7.6.2.2. SECOND ORDER FACTORS

Independence (factor QIV)

Mark obtained a high average score of 7 on factor QIV which is suggestive of an independent, incisive person. He is a person who is generally difficult to get along with. The reason is that he is not simply aggressively independent, but chooses and enjoys doing things in his own individual manner (Smit 1996:285). He will seek those situations where such behaviour is at least tolerated and possibly rewarded, and is likely to exhibit considerable initiative (Cattell et al 1962: 22).

Compulsivity (factor QVII)

Mark obtained a low score of 2.5, that is a stanine of 3. It seems that Mark may have sociopathic tendencies (Golden 1979:118) now referred to as antisocial personality disorder on the DSM-IV (1994:684).

(See figure 7.10).

7.6.3. VALUES SCALES

Mark appeared to have no inclination to progress in his career or to have a better standard of living (advancement, 1). He did not particularly care much about having a stable income

(economic rewards, 2) and being assured of being able to survive difficult economic times (economic security, 1). He was not especially interested in personal development (3) and did not appear to have plans about what he wants to do with his life. He did not place much importance on prestige or status (2). Mark wishes to have the freedom to live his own life according to his own standards and values (own lifestyle, 7). He enjoyed the excitement of danger and other risks incurred in certain activities or proposed ventures (risk, 7) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.11).

7.6.4. SELF CONCEPT SCALE

Mark obtained a medium self concept, a stanine of 6. The following negative information emerged in the different dimensions of the self-concept test:

7.6.4.1. PHYSICAL SELF - relations with ones physical condition.

- ♦ Mark considers himself unattractive.
- ♦ He dislikes always being neat.
- ♦ He is usually aware of pain somewhere in his body.
- ♦ He is very clumsy and awkward in certain situations.

7.6.4.2. PERSONAL SELF- relations with one's psychological condition.

- ♦ Mark is only cheerful when things go well.
- ♦ He finds it difficult to hold his own in all situations.
- ♦ He easily changes his opinions.

7.6.4.3. FAMILY SELF- relations with one's family and relatives.

- ♦ Mark is not a member of a very happy family.
- ♦ He is often ashamed of his family.
- ♦ He does not like family gatherings.
- ♦ He is very sensitive to what his family says about him.
- ♦ He sometimes has serious quarrels with members of his family.

7.6.4.4. SOCIAL SELF - relations with others in the social community.

- ♦ Mark is not very popular with the opposite sex.

- ♦ He takes little interest in the actions and conversations of other people (doings of other people).
- ♦ He is usually unpopular, his company is seldom sought after.
- ♦ He often wishes he could be more sociable.
- ♦ He is usually reserved and self conscious with strangers and particularly with people in authority.

7.6.4.5. MORAL SELF- *relationship to moral and religious values, that is moral-ethical self.*

- ♦ Mark worries about his behaviour which often leaves much to be desired.
- ♦ He often continues his behaviour even though he knows it to be wrong.
- ♦ He often feels guilty about his frequently irresponsible behaviour.
- ♦ He is someone who does not feel particularly guilty if he is compelled to tell a small lie.
- ♦ Mark feels guilty because he seldom goes to church.
- ♦ Mark sometimes uses questionable methods in order to get ahead.
- ♦ He often feels guilty because he neglects the virtues of honesty, integrity, loyalty and truthfulness.

(See figure 7.12).

7.6.5. SENSE OF PERSONAL IDENTITY

Mark obtained a raw score of 57 on the personal identity scales. This is indicative of an average developed sense of identity.

7.6.6. PERSONAL IMAGE

Mark appears to be of lower intellectual ability. He is inclined to quit and can be described as indolent. Mark nevertheless tends to be a cheerful individual who is likely to be friendly and considerate. He is easy going and adaptable in his interpersonal relationships, and is generally trusting and forgiving. Mark is inclined to be naive and easily gets emotionally involved. He is socially clumsy and appears to lack social skills. He is inclined to feel maladjusted socially. Mark may be described as rebellious and experimenting. He tends to be free thinking and is likely to question and even belittle conventional beliefs. He is individualistic and unconventional in many matters. He does not need the agreement of friends in making decisions or in taking action. However, his individuality may generate rejection by others.

Figure 7.11:

Values Scales Profile of Subject 4 - Mark

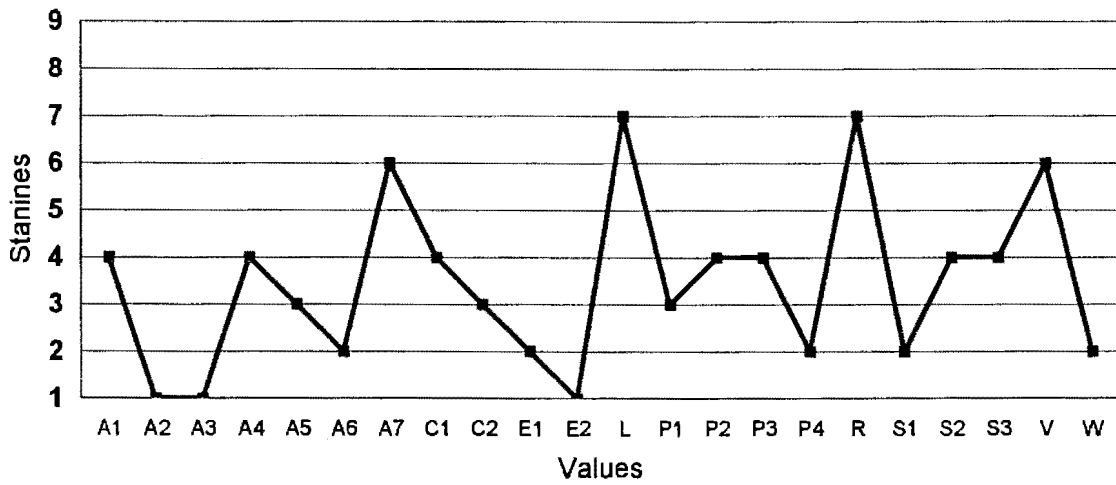
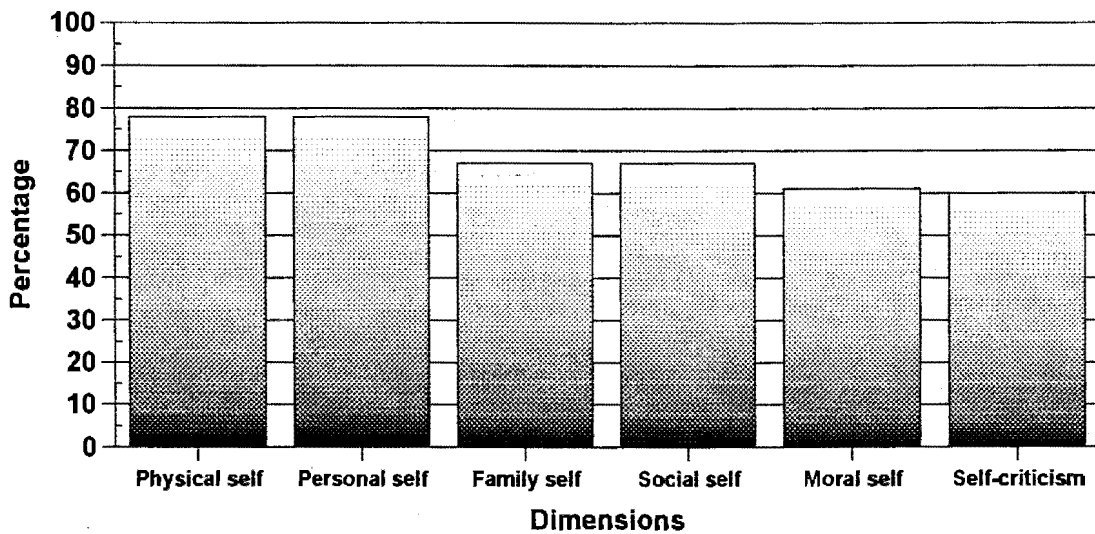


Figure 7.12:

Dimensions of the self concept - Mark



Mark appears to lack perseverance and self-control. It seems that he is not able to handle stress productively. He is inclined to be easily upset and moody. Mark needs to resist tendencies toward idleness, irresponsibility, emotional dependence and self pity.

7.7. CASE STUDY 5: SAMANTHA (female)

7.7.1. Background

Samantha is 19 years old. She was married in her matric year and has a child. She is presently unemployed. Samantha began taking Ecstasy eight months ago, at the age of 19 and has been doing so for eight months now. She prefers to take the drug in the privacy of her home and enjoys the openness of conversation and closeness with her husband and friends.

7.7.2. 16 PF- PERSONALITY PROFILE

Of the 16 possible scores, 6 of Samantha's scores are truly average, that is between 5 and 6, indicating an absence of suppressed personality traits. Samantha has one extreme score of 10 on factor H. Factor H represents the concept of boldness. Samantha can be described as an extrovert - someone who is socially bold and abundant in emotional response (Cattell et al 1962:15). She is jovial, adventurous (Golden 1979:112) and is always ready to try new things. However she can be careless of detail, ignore danger signals and consume much time talking. Samantha tends to be "pushy" and is actively interested in the opposite sex. Her "thick skinnedness" enables her to face wear and tear in dealing with people and grueling emotional situations without fatigue (Cattell et al 1962:15). This correlates with factor F (a measure of impulsivity) however it conflicts with factor O (a measure of guilt proneness).

Samantha obtained 3 high scores in the following factors F, O and Q1:

Factor F is a measure of impulsivity (Golden 1979:112). Samantha's high score of 9 is an indication that she is cheerful, talkative and carefree (Cattell et al 1962:14). She tends to be enthusiastic and group involved (Golden 1979:112) however, she is also inclined to be impulsive and unpredictable (Cattell et al 1962:14). This concurs with factor H (a measure of boldness) but it is in conflict with factor O (a measure of guilt proneness).

Factor O is a measure of guilt proneness. Samantha's high score of 8 is suggestive of an insecure, troubled, individual who is likely to be depressed and anxious (Golden 1979:114). She is full of self-reproach (Smit 1996:297) and sensitive to the disapproval and approval of

others (Golden 1979:114). Samantha may be described as moody (Cattell et al 1970:101). She has a childlike tendency to anxiety in difficulties and is easily down hearted. She does not feel accepted in groups or free to participate (Cattell et al 1962:17). This contradicts factors F (a measure of impulsivity), H (a measure of social boldness) and factor N (a measure of shrewdness) however it correlates with factor C (a measure of ego strength) and Q4 (a measure of tension).

Samantha obtained a high score of 8 on factor Q1 which is a measure of rebelliousness. Samantha appears to be inquiring, free thinking and is generally more well informed (Cattell et al 1962:17). She tends to experiment and be less moralising. She is likely to be more tolerant of change (Cattell et al 1970:104). This corresponds with factor H (a measure of boldness).

Samantha also obtained a low score of 3 on factor G. Factor G is a measure of group conformity (Golden 1979:112). Samantha's score points to disregard for rules, indifference and fickleness (Smit 1996:293). She is likely to be self indulgent, undependable and disregards obligations to people (Cattell et al 1970:88). Samantha appears generally unconcerned about group standards and morals (Golden 1979:112). According to Cattell et al (1962:15) freedom from group influence may lead to antisocial behaviour. Although this appears to correlate with factor Q1 (a measure of rebelliousness) it nevertheless conflicts with factor F (a measure of impulsivity) where she is described as group involved.

On the outer boundaries of average, that is stens of 4 and 7, Samantha scored a high average 7 on factors E, I, N and Q4.

Factor E is suggested as a measure of dominance. Samantha tends to be assertive, self confident and independent minded (Cattell et al 1970:86). She is headstrong and is likely to be rebellious (Golden 1979:111) and disregard authority (Cattell et al 1962:14). She feels free to participate in a group (Cattell et al 1970:86). This is in accordance with factors F (a measure of impulsivity), H (a measure of boldness) and Q1 (a measure of rebelliousness).

Factor I is a measure of emotional sensitivity. Samantha tends to be tenderminded and may be described as sensitive. She is inclined to be a daydreamer (Cattell et al 1962:15). Samantha is sometimes demanding of attention and help and can be impatient and dependent (Golden 1979:113). This is in conflict with factor N (a measure of shrewdness) however it correlates

with factors H (a measure of boldness) and O (a measure of guilt proneness) where Samantha was described as sensitive to the approval and disapproval of others.

Factor N is a measure of shrewdness. Samantha appears to be socially aware and emotionally detached. She is inclined to have a calculating mind and is alert to cutting corners and taking advantage of situations (Golden 1979:114). She tends to be experienced in the ways of the world and can be shrewd. Samantha is often stubborn and analytical. She has an intellectual, unsentimental approach to situations and can be hard, to the point of cynicism (Cattell et al 1962:16). This contradicts factor I (a measure of emotional sensitivity), factor O (a measure of guilt proneness), factor C (a measure of ego strength) and factor Q4 (a measure of anxiety and tension).

Factor Q4 is a measure of free floating anxiety and tension. Samantha's score implies that she may be characterised by tension, frustration and a generally highly anxious approach to problems (Golden 1979:116). She is likely to be restless, fretful and impatient (Cattell et al 1962:18). This is in conflict with factor N (a measure of shrewdness) but it appears to correlate with factor C (a measure of ego strength) and factor O (guilt proneness).

Samantha obtained a low average score of 4 on factor C. Factor C is described by Cattell (1962:14) as a measure of ego strength. Her score is suggestive of an inability to handle frustration and a general emotional lability. Samantha is likely to evade responsibility and displays a tendency to worry and give up. To be easily affected by feelings suggests an inability to deal with stress (Golden 1979:111). This correlates with factors O (guilt proneness), Q4 (a measure of anxiety and tension) and I (a measure of emotional sensitivity) however it conflicts with factor N (a measure of shrewdness).

7.7.2.1. INTERPRETATION OF INTERFACTOR RELATIONSHIPS ON THE 16PF

O+, G- [A high score on factor O (guilt proneness) accompanied by a low score on factor G (group conformity)].

Samantha appears to typify herself as a "rebel" and "free thinking". However, she experiences guilt feelings in expressing this behaviour. In other words, she possesses a punitive super ego (Smit 1996:302).

H+, Q1+ [A high score on factor H (boldness) accompanied by a high score on factor Q1 (rebelliousness)].

- ♦ Samantha appears to be very critical in her interpersonal relationships (Smit 1996:302).

7.7.2.2. *SECOND ORDER FACTORS*

Extraversion (factor QI)

Samantha obtained a high score of 7.6, that is a stanine of 8 on factor QI, a measure of extraversion. Samantha is a warm, socially outgoing, uninhibited person who is proficient at making and maintaining interpersonal contacts (Smit 1996:282).

Anxiety (factor QII)

Samantha scored high average, that is a stanine of 7 on factor QII, a measure of anxiety. Her anxiety could be situational but it is probable that she has some maladjustment, that is she is dissatisfied with the degree to which she is able to meet the demands of life and to achieve what she desires (Cattell et al 1962:21).

Independence (factor QIV)

Samantha obtained a high average score of 7 on factor QIV, a measure of independence. She tends to be an assertively independent, adventurous person (Cattell et al 1962:22). She is a person who is generally difficult to get along with. The reason is that she is not simply aggressively independent but chooses and enjoys doing things in her own individual manner: "I'll do my own thing and in my own way" (Smit 1996:285).

(See figure 7.13).

7.7.3. *VALUES SCALES*

Samantha placed a great deal of importance on achievement (9), maintaining a high standard of living (economic rewards, 8) and having the financial capacity to keep it up (economic security, 7). Personal development and advancement were of equal importance (7). Samantha wants to develop and have plans about what she wants to do with her life. She felt it especially important to have the freedom to live her own life according to her own standards and values (own lifestyle, 9). She attached great value to pleasant, friendly contact with the people with whom she associates and in giving them attention (social relations, 9). Samantha wants to

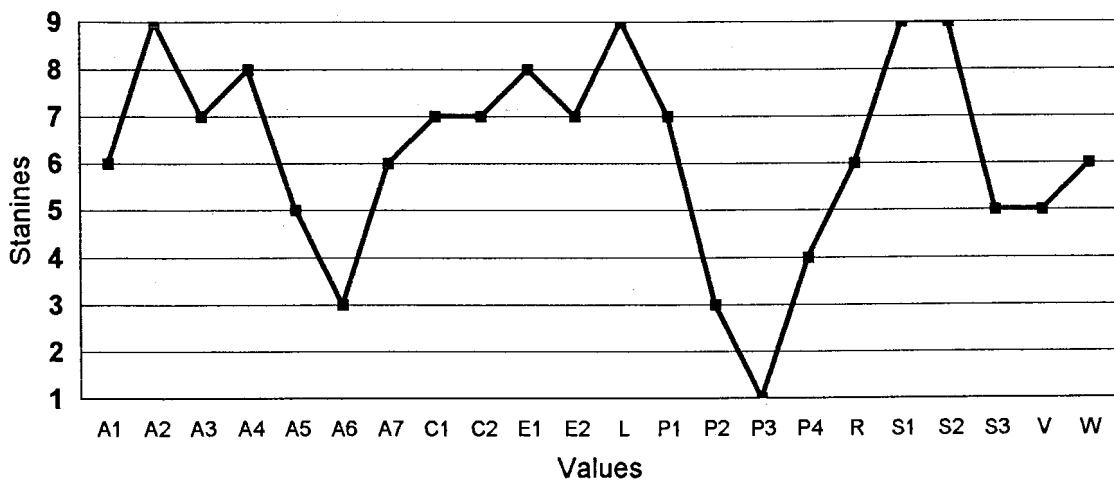
Figure 7.13:

Personality Profile of Subject 5 - Samantha



Figure 7.14:

Values Scales Profile of Subject 5 - Samantha



enhance and enjoy the beauty of processes, products and surroundings both natural and man made (aesthetics, 8) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.14).

7.7.4. SELF CONCEPT

Samantha possessed an average self concept, stanine of 5. The following negative information emerged in the different dimensions of the self concept test:

7.7.4.1. PHYSICAL SELF - relations with one's physical condition.

- ◆ Samantha is seldom completely well.
- ◆ She is usually aware of feeling unwell.
- ◆ She is usually aware of pain somewhere in her body.
- ◆ She feels dissatisfied because she is often unwell.
- ◆ She feels tired and lethargic most of the time.
- ◆ She is easily worried.
- ◆ Samantha feels dissatisfied with certain aspects of her physical appearance and would change them if she could.
- ◆ She is usually untidy.
- ◆ She prefers routine work.

7.7.4.2. PERSONAL SELF- relations with one's psychological condition.

- ◆ She easily loses all self control.
- ◆ She always feel inferior in company.
- ◆ Samantha is only cheerful when things go well.
- ◆ She is often peevish and moody for long periods.
- ◆ She is not satisfied with herself.
- ◆ She is always afraid that she will not be able to solve her problems.
- ◆ She often experiences despair because she does not keep to her principles.
- ◆ She is always envious of traits of character which she perceives in others.
- ◆ She can never persevere with a task until it is finished.
- ◆ She often acts without first considering the consequences of her actions.
- ◆ She easily changes her opinions, she never disagrees.
- ◆ She usually finds it very difficult to reach a decision.

7.7.4.3. FAMILY SELF- *relations with one's family and relatives.*

- ◆ Samantha's family seldom asks her opinion.
- ◆ She is very sensitive to what her family says about her.
- ◆ Her family criticize her often.

7.7.4.4. SOCIAL SELF - *relations with others in the social community.*

- ◆ Samantha often feels she is angry with the whole world.
- ◆ She wishes that others would show interest in her more often.
- ◆ She always finds it difficult to forgive someone who has accused her falsely.

7.7.4.5. MORAL SELF- *relationship to moral and religious values, that is moral-ethical self.*

- ◆ Samantha is someone who does not feel particularly guilty if compelled to tell a small lie.
- ◆ She often feels guilty because she neglects the virtues of honesty, integrity, loyalty and truthfulness.
- ◆ She constantly worries about her religion.
- ◆ She feels guilty because she seldom goes to church.
- ◆ She often feels guilty about the ease with which she tells a lie.
- ◆ She often continues with behaviour even though she knows it to be wrong.
- ◆ She often does things which cause her to feel ashamed afterwards.
- ◆ She often feels guilty about her frequently irresponsible behaviour.
- ◆ She often feels unhappy because her life does not measure up to the high standards which others set for her.

(See figure 7.15).

7.7.5. SENSE OF PERSONAL IDENTITY

On the personal identity scales Samantha obtained a raw score of 46 which is significantly lower than the average score of 56-58. This suggests that Samantha is still progressing through the identity development stage.

7.7.6. PERSONAL IMAGE

Samantha is a socially self-confident individual who is likely to be bold, spontaneous and uninhibited in her social interactions. She tends to be individualistic and may sometimes be

Figure 7.15:

Dimensions of the self concept - Samantha

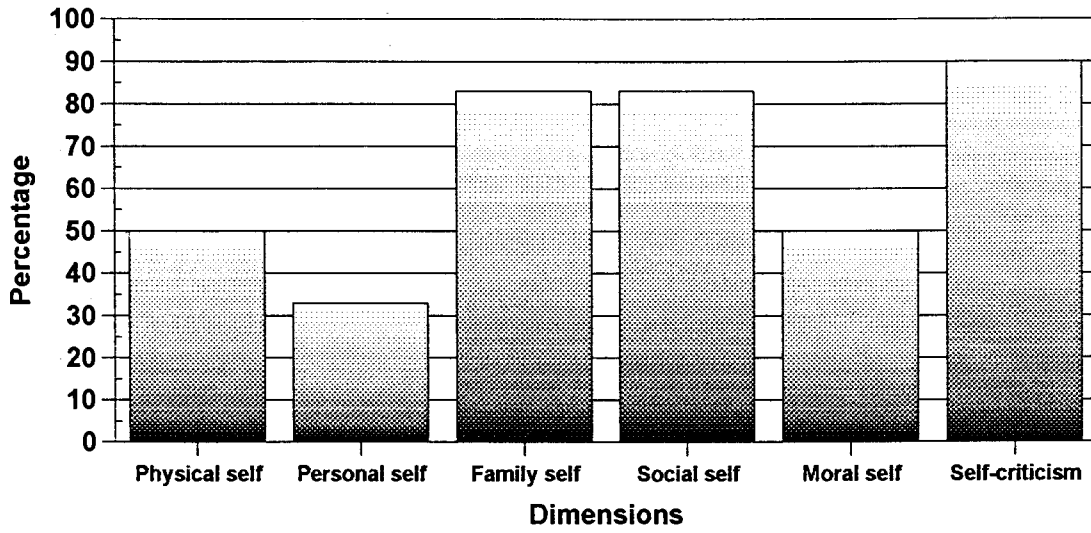
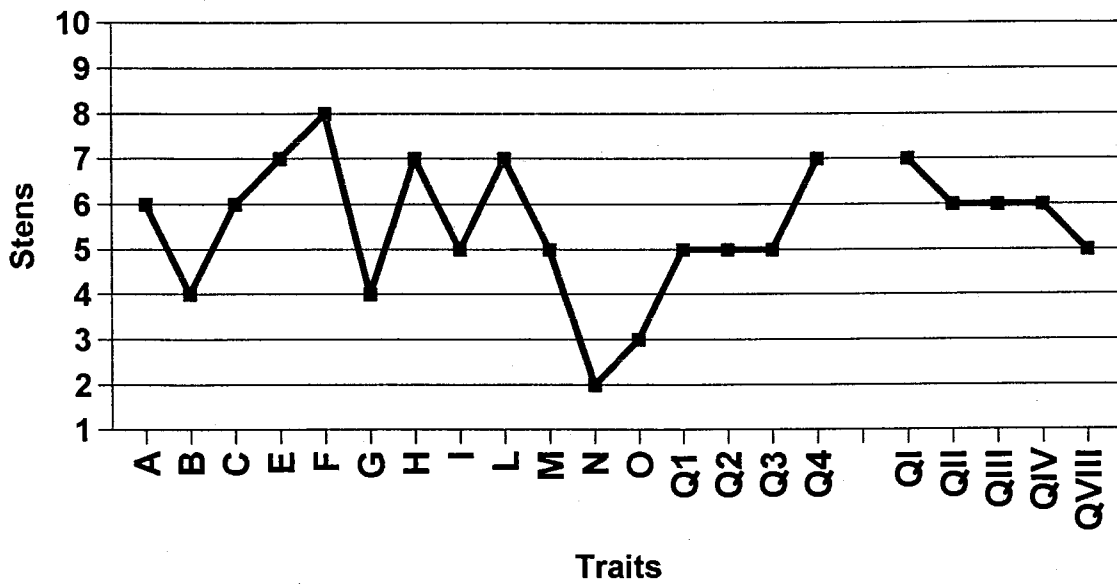


Figure 7.16:

Personality profile of Subject 6 - Ivan



described as arrogant. She has a healthy appetite for adventure and the capacity for being dominant in many interpersonal relationships. Samantha is likely to be cheerful, optimistic and usually possesses an abundance of energy and a high level of enthusiasm. Samantha is an independent minded individual who keeps herself well informed. She tends to be experimental in her approach to life and may display a disregard for rules. She is strongly inclined to question and sometimes discredits traditional beliefs. Although Samantha typifies herself as a “rebel” and “free thinking”, she nevertheless experiences guilt feelings in expressing this behaviour. Samantha to some degree appears to lack patience, perseverance and self-control and thus may tend toward inappropriate or excessive display of the emotions of sociability, self-assertion and anger. She is an emotional person who is likely to be easily upset and temperamental. She appears to worry excessively and become easily discouraged and is inclined to harbour feelings of inferiority and inadequacy. She is likely to blame herself when things go wrong. Samantha does not seem sufficiently emotionally stable to handle crises.

7.8. CASE STUDY 6: IVAN (male)

7.8.1. Background

Ivan is 20 years old, currently working as a barman in a Rave club in order to save money to travel overseas. He was introduced to cannabis at the age of 15 at a party with his school friends. In his matric year, aged seventeen, he took Ecstasy for the first time at a Rave with his older brother. He later registered as a business management student at the Technikon but has not completed his studies. Ivan is more interested in travelling the world, partying and encountering new cultures and experiences. Immediate need gratification appears to be of great importance.

7.8.2. 16PF-PERSONALITY QUESTIONNAIRE

Of the sixteen possible scores, 7 of Ivan's scores are truly average, that is between 5 and 6, indicating an absence of suppressed personality traits. Ivan has one high score of 8 on factor F which is a measure of impulsivity. His score suggests that he can be described as a happy go-lucky person who is cheerful, energetic and talkative (Cattell et al 1970:87). He is inclined to be enthusiastic, alert and group involved (Golden 1979:112). Ivan is likely to be chosen as a leader. However, he can also be impulsive and mercurial (Cattell et al 1962:14). Although this conflicts with factor G (group conformity), it nevertheless corresponds with factors H (a measure of boldness), N (a measure of shrewdness) and O (a measure of guilt proneness).

Ivan obtained two low scores of 2 and 3 on factor N and O respectively. Factor N is a measure of shrewdness. Ivan's low score implies that he is a genuine, forthright person with a natural warmth and liking for people. He is inclined to get easily emotionally involved, is very trusting and is unskilled in analysing others' motives (Cattell et al 1970:99). Ivan tends to be socially clumsy but is easily pleased and content with what comes (Cattell et al 1962:16). This concurs with factor F (a measure of impulsivity).

Factor O is a measure of guilt proneness. Ivan appears to be an untroubled, adequate individual who is likely to be cheerful, internally controlled and likely to act when it is necessary (Golden 1979:114). He tends to be calm with unshakable nerve. He has a mature, unanxious confidence in himself (Cattell et al 1962:17). Ivan appears resilient and secure (Cattell et al 1970:101). This correlates with factor F (a measure of impulsivity) and factor E (a measure of dominance).

Ivan's scores which fall on the outer boundaries of average, that is 4 and 7, may be interpreted as follows:

He scored a high average 7 on factors E, H, L and Q4.

Factor E is suggested as a measure of dominance. This implies that Ivan is inclined to be assertive, self confident and independent minded (Cattell et al 1970:86). He is headstrong and is likely to be rebellious (Golden 1979:111) and disregard authority (Cattell et al 1962:14). Ivan feels free to participate in a group (Cattell et al 1970:86). This corresponds with factors H (a measure of boldness) and O (a measure of guilt proneness).

Factor H represents the concept of boldness. Ivan's high average score suggests that he tends to be sociably bold, jovial and adventurous (Golden 1979:112). He can be described as spontaneous, impulsive and ready to try new things. However he can be careless of detail and insensitive to danger signals (Cattell et al 1962:15). This correlates with factor F (a measure of impulsivity) and E (a measure of dominance).

Factor L is a measure of suspiciousness. A high average score suggests an individual who is probably very difficult to get along with in everyday situations. It implies that Ivan is likely to be suspicious, frustrated and irritable. He is likely to be often involved in his own ego and is self-opinionated. Ivan tends to be deliberate in his actions, is unconcerned about other people

and is a poor team member (Cattell et al 1962:16). This is in direct conflict with factors F (a measure of impulsivity) and N (a measure of shrewdness) where Ivan is described as a genuine, happy-go-lucky person with a natural warmth and liking for people.

Factor Q4 is a measure of free floating anxiety and tension. Ivan's score implies that he may be characterized by tension, frustration and a generally highly anxious approach to problems (Golden 1979:116). He is likely to be restless, fretful and impatient with an inability to remain inactive (Smit 1996:300). Although this appears to correlate with factor L (a measure of suspiciousness), it is in direct conflict with factor O (guilt proneness). (One should recognise that this factor Q4 is subject to daily fluctuations depending on the current status of the individual.)

Ivan scored a low average 4 on factors G and B.

Factor G is a measure of group conformity (Golden 1979:112). It appears that Ivan is often casual and lacking in effort for group undertakings (Cattell et al 1962:15). His score suggests a tendency to be fickle, frivolous and self-indulgent. He is inclined to be undependable and generally unconcerned about group standards or morals (Golden 1979:112). Ivan may display a disregard for rules (Smit 1996:293). Although this correlates with factor L (a measure of suspiciousness), it nevertheless conflicts with factor F (a measure of impulsivity) where Ivan is described as group involved and likely to be chosen as a group leader,

Factor B is a measure of intelligence. Ivan's low average score suggests that he tends to learn slowly, acquire insight with difficulty and is concrete in his behaviour (Smit 1996:290). Ivan is likely to be less well-organised and quits as opposed to persevering (Golden 1979:110-111). Low scores on factor B may also be associated with anxiety, inability to concentrate as well as poor intelligence (Golden 1979:111).

7.8.2.1. INTERFACTOR RELATIONSHIPS

There were no interfactor relationships of significance.

7.8.2.2. SECOND ORDER FACTORS

Extraversion (factor Q1)

Ivan obtained a high average score of 6.8, that is a stanine of 7, on factor QI, a measure of extraversion. This suggests a warm, socially outgoing, uninhibited person who is good at making and maintaining interpersonal contacts (Cattell et al 1962:21).

(See figure 7.16).

7.8.3. *VALUES SCALES*

Ivan did not appear to have plans about what he wants to do with his life and did not assign much importance on personal development (3). Arousing respect and admiration socially or economically was not of concern (prestige, 3). Ivan did not place much importance on living his life according to religious principles (spirituality, 3) (Langley, du Toit & Herbst 1992:7-8).

(See figure 7.17).

7.8.4. *SELF CONCEPT SCALE*

Although Ivan held a high self concept, (stanine 7), the following negative information emerged in the different dimensions of the self-concept test:

7.8.4.1. *PHYSICAL SELF - relations with one's physical condition.*

- ♦ Ivan is usually aware of pain somewhere in his body.
- ♦ He often feels worried about his weight.
- ♦ He feels dissatisfied with certain aspects of his physical appearance and would change them if he could.
- ♦ He often feels guilty because he neglects his body.
- ♦ He is very nervous when he has to appear before a group of people.

7.8.4.2. *PERSONAL SELF- relations with one's psychological condition.*

- ♦ Ivan is not satisfied with himself.
- ♦ He often experiences despair because he does not keep to his principles.

7.8.4.3. *FAMILY SELF- relations with one's family and relatives.*

- ♦ Ivan sometimes has serious quarrels with his family.

7.8.4.4. *SOCIAL SELF - relations with others in the social community.*

- ♦ Ivan did not appear to have any problems in this area.

Figure 7.17:

Values Scales Profile of Subject 6 - Ivan

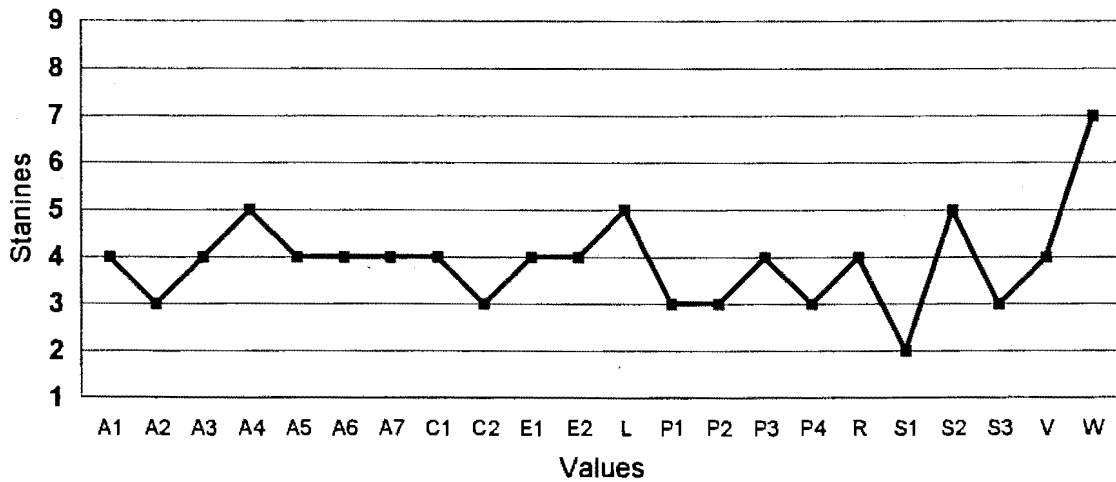
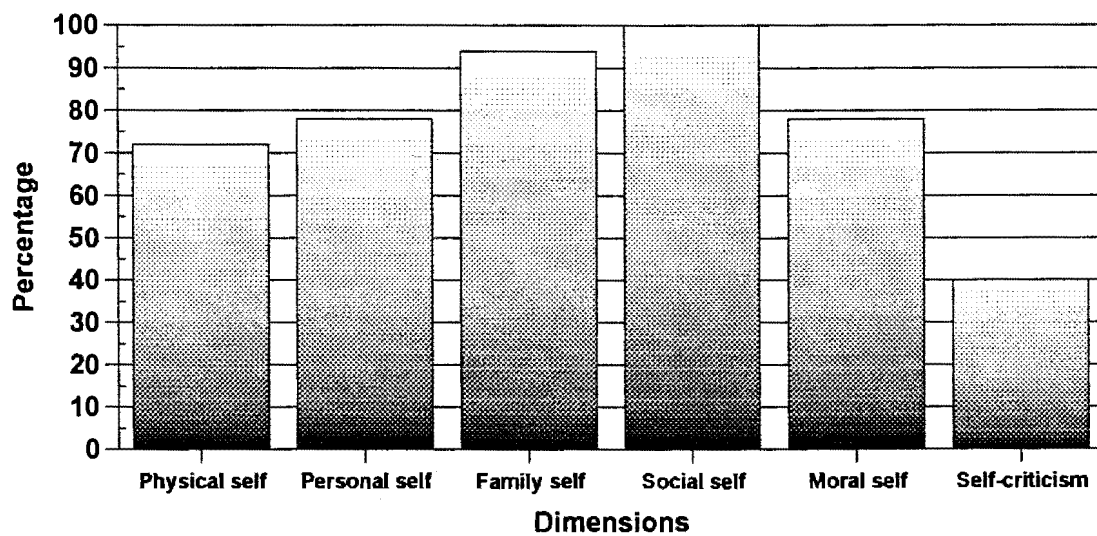


Figure 7.18:

Dimensions of the self concept - Ivan



7.8.4.5. MORAL SELF- *relationship to moral and religious values, that is moral-ethical self.*

- Ivan is someone who does not feel particularly guilty if he is compelled to tell a small lie.
- He often continues his behaviour even though he knows it to be wrong.

(See figure 7.18).

7.8.5. SENSE OF PERSONAL IDENTITY

Ivan obtained a raw score of 59 on the personal identity scales. This is indicative of an average developed sense of identity.

7.8.6. PERSONAL IMAGE

Ivan appears to be a friendly individual who tends to be cheerful, optimistic and energetic. He is likely to be resilient and resourceful and recover rapidly from anger. Ivan tends to be quick at arriving at “common sense” solutions to problems. He is likely to be spontaneous and may display a disregard for rules. He possesses a healthy appetite for adventure and generally enjoys travel and work that involves frequent change. Ivan may be described as naive or sentimental. He appears to lack in social skills and is socially clumsy. Ivan is easily pleased and content with what comes his way. He is likely to be emotionally secure and routinely displays confidence in coping. Ivan tends to be free of significant feelings of inadequacy and inferiority. He is likely to be free of undue care and worry. Although Ivan is generally a happy-go-lucky individual, he can also be erratic. He is sometimes moody and fault finding. He tends to get irritable and easily annoyed by trivial matters and may lose his temper. Ivan needs to resist tendencies toward idleness, irresponsibility and self-pity.

7.9 CASE STUDY 7: ALLAN (male)

7.9.1. Background

Allan is a 20 year old information technology student who regards clubbing as the closest he gets to a church. His Saturday night “festivities” continue late into Sunday morning, sometimes even Sunday afternoons depending on the availability of “after parties.” His first Ecstasy experience was with his sister at a private party held in a club. Allan was seventeen years old and vividly remembers his “first taste of chemical heaven.” He explained how he felt a strong sense of unity with everyone at the club that night and how that was clearly an experience worth reliving. Alan believes that the traditional practice of Church on Sundays is

no longer appealing to the youth and is rapidly being replaced by the “seduction” of designer drugs and dancing.

7.9.2. 16 PF- PERSONALITY PROFILE

Of the 16 possible scores, 9 of Allan’s scores are truly average, that is between 5 and 6, indicating a likely tendency to suppress his personality traits. Allan obtained an extreme score of 1 on factor B.

Factor B is a measure of intelligence. It appears that Allan is likely to learn slowly and acquire insight with difficulty and is concrete in his behaviour (Smit 1996:290). He tends to less organised and quits as opposed to persevering. Allan appears unable to handle abstract problems (Golden 1979:111). His low score may also be associated with anxiety, inability to concentrate as well as poor intelligence (Golden 1979:111).

He obtained 2 low scores of 3 on factors I and Q3 respectively.

Factor I is a measure of emotional sensitivity. Allan tends to be tough minded, self reliant and lacking in sentimentality (Golden 1979:113). He is likely to be realistic, responsible and acts on logical, practical grounds (Smit 1996:294). Allan is sometimes hard (to the point of cynicism) and smug (Cattell et al 1970:93). This appears to correlate with factor L (a measure of suspiciousness) however it contradicts factor N (a measure of shrewdness).

Factor Q3 points to the extent to which the individual is capable of the behaviour society prescribes (Smit 1996:299). Allan obtained a score of 3 indicating a lack of control, a carelessness with respect to social rules and a tendency to follow his urges (Golden 1979:115). He is not inclined to be overly considerate or careful. Allan may feel maladjusted (Cattell et al 1962:18). It appears that he is not able to handle stress productively (Golden 1979:116). This is in conflict with factors N (a measure of shrewdness) and factor I (emotional sensitivity).

Allan obtained one high score of 8 on factor F. Factor F is a measure of impulsivity. His score is an indication that he is a happy-go-lucky person who is cheerful, energetic and talkative (Cattell et al 1962:14). He is inclined to be enthusiastic, alert and group involved (Golden 1979:12). He is likely to be chosen as a group leader. However, Allan can also be impulsive

and unpredictable (Cattell et al 1962:14). This corroborates factor N (a measure of shrewdness) however it conflicts with factors L (a measure of suspiciousness) and Q4 (a measure of free floating anxiety and tension).

On the outer boundaries of average, that is stens of 4 and 7, Allan obtained high average scores of 7 on factors L and Q4. Factor L is a measure of suspiciousness. His score suggests that he is inclined to be mistrusting, jealous and frustrated (Golden 1979:113). He is often involved in his own ego and is self opinionated. Allan is usually deliberate in his actions, is unconcerned about other people and a poor team member (Cattell et al 1962:16). This suggests an individual who is probably very difficult to get along with in everyday situations (Cattell et al 1970:96). This is in direct conflict with factors F (a measure of impulsivity) and N (a measure of shrewdness) however it appears to correlate with factor I (a measure of emotional sensitivity).

Factor Q4 is a measure of free floating anxiety and tension. Allan's score implies that he may be characterised by tension, frustration and a generally highly anxious approach to problems (Golden 1979:116). He is likely to be restless, fretful and impatient (Smit 1996:300). This is in conflict with factors F (a measure of impulsivity), factor I (a measure of emotional sensitivity) but it appears to correlate with factor L (a measure of suspiciousness).

Allan obtained a low average score of 4 on factor N. Factor N is a measure of shrewdness. Allan's score implies that he is likely to be a genuine person with a natural warmth and liking for people (Cattell et al 1970:101). He is inclined to get emotionally involved easily, is very trusting and is unskilled in analysing other's motives. He tends to be socially clumsy but is easily pleased and content with what comes (Cattell et al 1970:99). This conflicts with factor I (a measure of emotional sensitivity) however it correlates with factor F (a measure of impulsivity).

7.9.2.1. INTERFACTOR RELATIONSHIPS

There were no interfactor relationships of significance.

Figure 7.19:

Personality Profile of Subject 7 - Allan

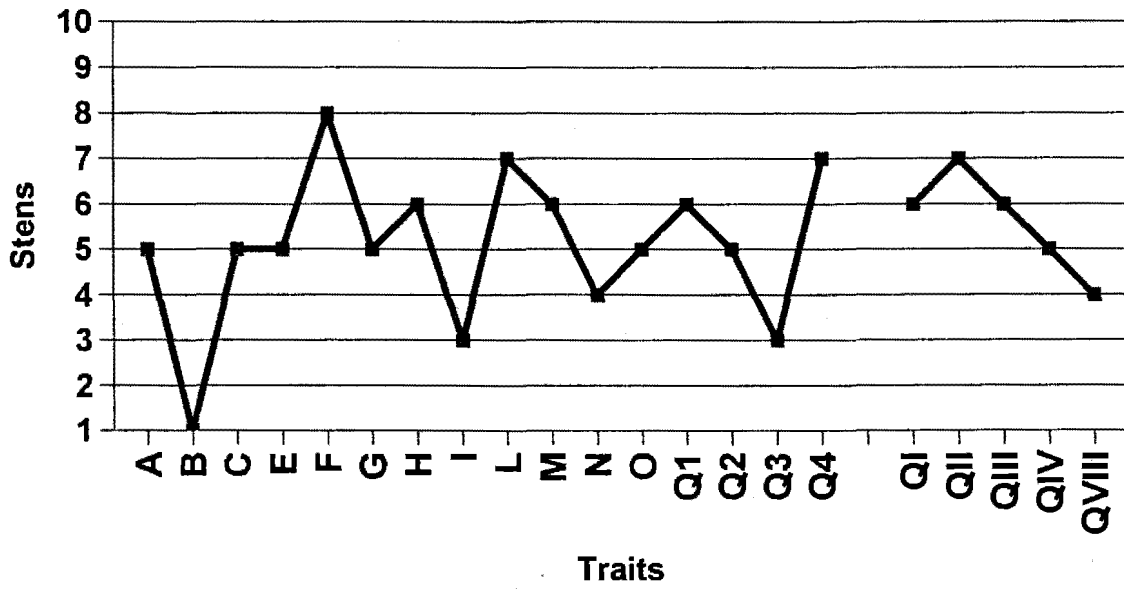
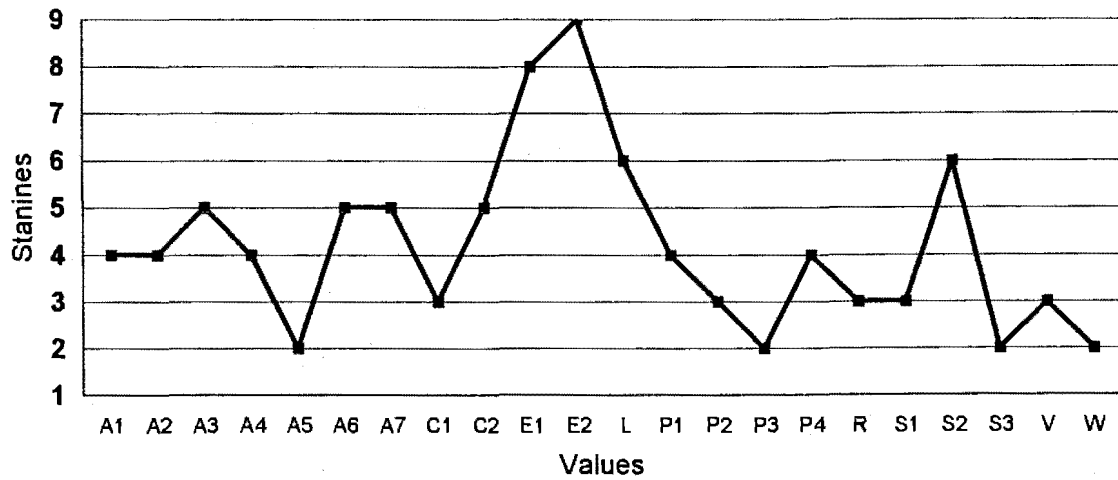


Figure 7.20:

Values Scales Profile of Subject 7 - Allan



7.9.2.2. *SECOND ORDER FACTORS*

Anxiety (factor QII)

Allan scored a high average 6.6, that is stanine of 7 on factor QII, a measure of anxiety. This anxiety could be situational but it is probable that he has some maladjustment, that is, he is dissatisfied with the degree to which he is able to meet the demands of life and to achieve what he desires (Cattell et al 1962:21).

(See figure 7.19).

7.9.3. *VALUES SCALES*

Allan placed a great deal of importance in having the financial capacity in maintaining a high standard of living (economic rewards, 8) and being assured of being able to survive difficult economic times (economic security, 9). Allan however did not assign much importance on helping others and being concerned about their welfare (altruism, 2). He did not express the need to have a variety or diversity of people with whom he associates (variety, 3). Allan did not consider spirituality or living his life according to religious principles to be of concern (spirituality, 2) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.20).

7.9.4. *SELF CONCEPT*

Although Allan had a high self concept, stanine of 7, the following negative information emerged in the different dimensions of the self-concept test:

7.9.4.1. *PHYSICAL SELF - relations with one's physical condition.*

- ◆ Allan feels dissatisfied because he is often unwell.
- ◆ He often feels guilty because he neglects his body.

7.9.4.2. *PERSONAL SELF- relations with one's psychological condition.*

- ◆ Allan is not satisfied with himself.
- ◆ He can never persevere with a task until it is finished.
- ◆ He cannot tolerate rebuke.
- ◆ He often acts without first considering the consequences of his deeds.

7.9.4.3. *FAMILY SELF- relations with one's family and relatives.*

- ◆ Allan's family is not very happy.

- ♦ He does not like family gatherings.
- ♦ He is usually suspicious of his family's conversations and conduct.
- ♦ He sometimes has serious quarrels with members of his family.

7.9.4.4. SOCIAL SELF - relations with others in the social community.

- ♦ Allan is not very popular with the opposite sex.
- ♦ He takes little interest in the conversations and doings of other people.

7.9.4.5. MORAL SELF- relationship to moral and religious values, that is moral-ethical self.

- ♦ Allan worries about his behaviour which often leaves much to be desired.
- ♦ He is not very religious.
- ♦ He is someone who does not feel particularly guilty if he is compelled to tell a small lie.
- ♦ He is hardly aware of the poor, cripples etc and ignores rather than helps them.
- ♦ He often feels guilty about his frequent irresponsible behaviour.
- ♦ Allan never has the courage to rebuke people who use coarse language.
- ♦ He sometimes uses questionable methods in order to be ahead.

(See figure 7.21).

7.9.5. SENSE OF PERSONAL IDENTITY

Allan obtained a raw score of 58 on the personal identity scales. This is indicative of an average developed sense of identity.

7.9.6. PERSONAL IMAGE

Allan appears to be a practical, self-reliant individual who is likely to be realistic and tough minded. He is inclined to be enthusiastic and energetic. He also tends to be logical, shrewd and self-effacing. Allan appears to demonstrate a small regard for social demands and tends to lack social awareness and tact. He may find it difficult to fit into a group and is inclined to feel uncomfortable when working as a member of a team. He seems to prefer self-sufficiency and independence to group action. Allan may thus feel maladjusted socially. Allan appears to be anxious and is likely to be irritable. He is likely to feel frustrated and unsatisfied. He tends to be impatient and can lose his temper easily. Allan can be unpredictable and impulsive and appears to have faulty impulse control.

Figure 7.21:

Dimensions of the self concept - Allan

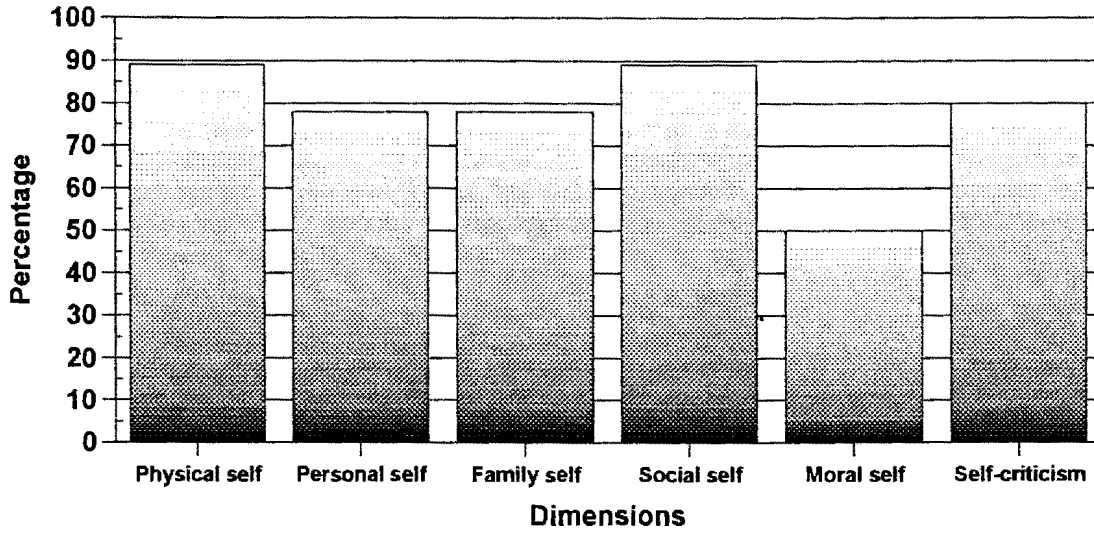
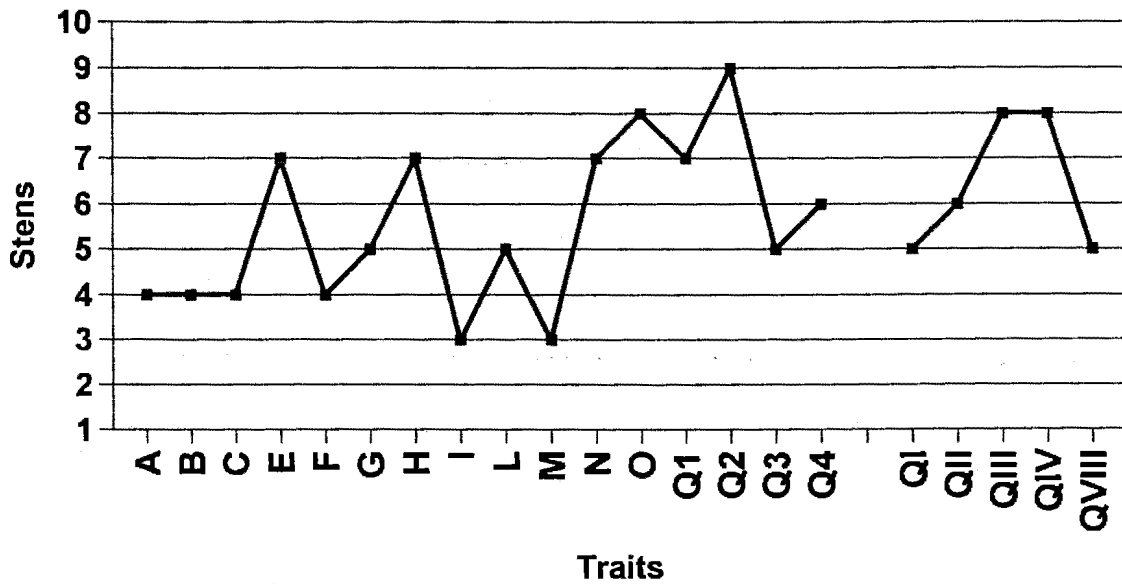


Figure 7.22:

Personality profile of Subject 8- Eric



7.10. CASE STUDY 8: ERIC (male)

7.10.1. Background

Eric is a 20 year old, university engineering student who works as a lighting specialist in a dance club on the weekend. He is responsible for the laser, light and video projections. Eric was offered Ecstasy on his first night at the club (age 19) and has “never looked back.” He believes that the music and the lights slant the Ecstasy experience towards the drug’s sensuous effects, “music, sounds, lights, colours, everything appeared so much clearer and brighter.” Eric has been taking the drug for eleven months and believes it has helped him become more sociable.

7.10.2. 16PF- PERSONALITY QUESTIONNAIRE

Of the 16 possible scores, only 4 of Eric’s scores are truly average, that is between 5 and 6, indicating an absence of suppressed personality traits. Eric obtained two high scores of 8 and 9 in factors O and Q2 respectively. Factor O is a measure of guilt proneness. Eric’s high score of 8 suggests that he is an insecure, troubled individual who is likely to be depressed (Golden 1979:114). He is full of self-reproach (Smit 1996:297) and is sensitive to the approval and disapproval of others (Golden 1979:114). He has a childlike tendency to anxiety in difficulties and is easily downhearted (Cattell et al 1962:17). Eric is likely to be lonely as he does not feel accepted in groups or free to participate (Cattell et al 1970:102). This score is in conflict with factor I (emotional sensitivity), factor A (warmth) and factor Q2 (self-sufficiency), however it correlates with factor C (ego strength).

Factor Q2 is a measure of self sufficiency. Eric appears to be a self-sufficient individual, who prefers depending on his own resources and his own judgements (Golden 1979:115). He is resolute and accustomed to going his own way, making decisions and taking action on his own (Cattell et al 1970:105). He disregards public opinion but is not necessarily dominant in his relations with others. He does not dislike people but simply does not need their agreement or support (Cattell et al 1962:17). This contradicts both factors O (guilt proneness) and C (ego strength), nevertheless it corroborates factor I (emotional sensitivity).

Additionally, Eric obtained two low scores of 3 in factors I and M respectively.

Factor I is a measure of emotional sensitivity. Eric tends to be tough minded, realistic and self-reliant (Golden 1979:113). He accepts responsibility and acts on practical, logical

grounds. Eric lacks in sentimentality, is hard (to the point of cynicism) and may be described as self-complacent (Cattell et al 1970:93). This corresponds with factors A (a measure of warmth), M (a measure of imagination), N (a measure of shrewdness) and Q2 (a measure of self sufficiency) however it further contradicts his high score on factor O (guilt proneness).

Factor M is a measure of imagination. A low score on factor M suggests that Eric can be described as conventional, practical and as someone who is guided by objective realities (Cattell et al 1970:98). He tends to be anxious to do the right things and avoids anything far-fetched (Cattell et al 1962:16). He is likely to be serious-minded, conservative and is not overly imaginative or far seeing (Golden 1979:114). This correlates with the previous low score on factor I (emotional sensitivity), however it is in conflict with factors Q1 (a measure of rebelliousness), Q2 (a measure of self sufficiency), F (a measure of impulsivity) and H (a measure of boldness).

Eric's scores that fall on the outside of the boundaries of average, namely stens of 4 and 7, may be interpreted as follows:

He obtained four low average scores of 4 on factors A, B,C and F respectively. Factor A is theoretically a measure of warmth. Eric seems to have a tendency to be cautious in his experience of emotions, inflexible and critical in his view of life and aloof in his behaviour towards others (Smit 1996:290). He is likely to be precise and rigid in his way of doing things and in personal standards. He may tend at times to be hard (Cattell et al 1962:13). Although this further contradicts factor O (a measure of guilt proneness), it nevertheless concurs with factors I (a measure of emotional sensitivity) and N (a measure of shrewdness).

Factor B is a measure of intelligence. It seems that Eric tends to learn slowly, acquire insight with difficulty and is concrete in his behaviour (Smit 1996:290). He is likely to be of lower self esteem and less well-organised (Golden 1979:110-111). Poor scores on factor B may also be associated with anxiety, inability to concentrate as well as poor intelligence (Golden 1979:111). This appears to correlate with factor C (a measure of ego strength).

Factor C is described by Cattell (1962:14) as a measure of ego strength. Eric appears to be unable to handle frustration. He tends to evade responsibility (Golden 1979:111) and seems changeable in his attitudes and interests. Eric appears easily irritated by people and things and

is easily perturbed (Smit 1996:291). He is inclined to worry and give up (Golden 1979:111). This confirms his high score on factor O (a measure of guilt proneness) and low average score on factor B (a measure of intelligence) however it is in direct conflict with factor I (a measure of emotional sensitivity).

Factor F is a measure of impulsivity. His score suggests a tendency to be serious rather than impulsive and committed to inner values and introspective behaviour. Eric appears to adopt a generally slow or cautious approach to problems (Golden 1979:112). Although this correlates with factor M (a measure of imagination) it nevertheless is in conflict with factor N (a measure of shrewdness), factor H (a measure of boldness) and factor Q1 (a measure of rebelliousness).

On the opposite side of the average scores, Eric scores a high average 7 on the following factors:

Factor E is suggested as a measure of dominance. Eric is inclined to be assertive, self assured and independent minded (Cattell et al 1970:86). He may at times be rebellious (Golden 1979:111) and disregard authority (Cattell et al 1962:14). Eric feels free to participate in a group (Cattell et al 1970:86). This conflicts with factor F (a measure of impulsivity) however it correlates with factor H (a measure of boldness) and Q1 (a measure of rebelliousness).

Factor H is a measure of boldness. Eric tends to be sociably bold and may be described as spontaneous and ready to try new things. However he can be insensitive to detail and ignore danger signals (Cattell et al 1962:15). This is in conflict with factor O (a measure of guilt proneness) and factor F (a measure of impulsivity) however it concurs with factor Q1 (a measure of rebelliousness) and factor E (a measure of dominance).

Factor N is a measure of shrewdness. Eric appears to be socially aware and emotionally detached. He is inclined to have a calculating mind, is hardheaded and alert to taking advantage of situations (Golden 1979:114). He adopts an unsentimental approach to situations and can be hard to the point of cynicism (Cattell et al 1962:16). This correlates with factors I (a measure of emotional sensitivity) and A (a measure of warmth), however it conflicts with factor O (a measure of guilt proneness) and factor C (a measure of ego strength).

Factor Q1 is a measure of rebelliousness. Eric displays the tendency to be experimenting, inquiring and free thinking (Smit 1996:298). He is generally more well informed (Cattell et al 1962:17) and is likely to be more tolerant of inconvenience and change and less unquestioning about views (Cattell et al 1970:104). This corresponds with factor E (a measure of dominance), however it conflicts with factors M (a measure of imagination) and F (a measure of impulsivity).

7.10.2.1. INTERFACTOR RELATIONSHIPS

There were no interfactor relationships of significance.

7.10.2.2. SECOND ORDER FACTORS

Tough poise (factor QIII) (high score of 7.6, stanine of 8)

Eric does not appear to be easily swayed by feelings and is likely to be an enterprising, determined and resilient personality (Cattell 1962:22). He may be described as generally aloof, tough and less inclined to fantasy. He is therefore inclined to handle problems in a rational and objective manner (Smit 1996:284). However, he is likely to miss the subtle relationships of life and to orient his behaviour too much towards the obvious. If he has difficulties, they are likely to involve rapid action with insufficient consideration and thought (Cattell et al 1962:22).

Independence (factor QIV) (high score of 7.6, stanine of 8).

Eric tends to be an assertively independent, astute person. He is generally a person who is difficult to get along with. The reason is that he is not simply aggressively independent, but chooses and enjoys doing things in his own individual manner: "I'll do my own thing and in my own way" (Smit 1996:285). Eric will seek those situations where such behavior is at least tolerated and possibly rewarded and is likely to exhibit considerable initiative (Cattell et al 1962:22).

(See figure 7.22).

7.10.3. VALUES SCALES

Although Eric regarded the following values very highly, achievement (9), economic security (7) and prestige (8), he did not seem to ascribe much importance to personal development (3). Eric did not appear to attach much value to social interaction (3) or to pleasant, friendly relations with the people with whom he associated (social relations, 3). Irrespective of Eric

not desiring the freedom to live his own life according to his own standards and values (own lifestyle, 3), living according to religious principles did not seem to be of concern (spirituality, 2) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.22).

7.10.4. SELF CONCEPT TEST

Eric obtained a stanine of 5 which is representative of an average self concept. The following negative information emerged in the different dimensions of the self-concept test:

7.10.4.1. PHYSICAL SELF - relations with one's physical condition.

- ♦ Eric is usually aware of pain somewhere in his body.
- ♦ He longs for more attention from the opposite sex.
- ♦ He often feels guilty because he neglects his body.
- ♦ He is very clumsy and awkward in certain situations.
- ♦ He is easily worried.

7.10.4.2. PERSONAL SELF- relations with one's psychological condition.

- ♦ Eric is not satisfied with himself.
- ♦ He is always envious of traits of character which he perceives in others.
- ♦ He cannot tolerate rebuke.

7.10.4.3. FAMILY SELF- relations with one's family and relatives.

- ♦ Eric does not like family gatherings.
- ♦ He often neglects his parents.
- ♦ He sometimes has serious quarrels with members of his family.

7.10.4.4. SOCIAL SELF - relations with others in the social community.

- ♦ Eric is not very popular with the opposite sex.
- ♦ He often feels that he is angry with the whole world.
- ♦ He feels that others find it difficult to make friends with him.
- ♦ He is usually reserved and self conscious with strangers and particularly with people in authority.
- ♦ He is usually unpopular; his company is seldom sought.
- ♦ He is usually too self conscious to offer help to other people.

- ♦ He wishes that others would show more interest in him more often.
- ♦ Eric does not usually make friends easily.
- ♦ He always finds it difficult to forgive somebody who has accused him falsely.
- ♦ He always feels self conscious in the company of strangers.
- ♦ He finds it very difficult to enter into a conversation with strangers.

7.10.4.5. MORAL SELF- *relationship to moral and religious values, that is moral-ethical self.*

- ♦ Eric is not very religious.
- ♦ He constantly worries about his religion.
- ♦ He is someone who does not feel particularly guilty if he is compelled to tell a small lie.
- ♦ He often feels unhappy because his life does not measure up to the high standards which others set for him.

(See figure 7.23).

7.10.5. SENSE OF PERSONAL IDENTITY

Eric obtained a raw score of 60 on the personal identity scales. This is indicative of an average sense of identity.

7.10.6. PERSONAL IMAGE

Eric is an independent, shrewd individual who tends to be realistic and tough minded. He is likely to be self assertive and confident and does not need the approval or support of his associates in making decisions or in taking action. Eric is not influenced greatly by public opinion and is in the habit of going his own way. Despite Eric's tending to be experimental in his approach to life, he possesses a high regard for order, morals and conventions. His behaviour is generally restrained and deliberate. Although Eric may tend toward the excessive display of the emotions of self assertion, he is inclined to be emotionally very sensitive and temperamental. Eric is likely to worry excessively and becomes easily discouraged. He is inclined to harbour feelings of inferiority, inadequacy and even pressure from authority. He is likely to blame himself when things go wrong. To some extent, Eric appears to lack self-control, perseverance and patience.

Figure 7.23:

Values Scales Profile of Subject 8 -Eric

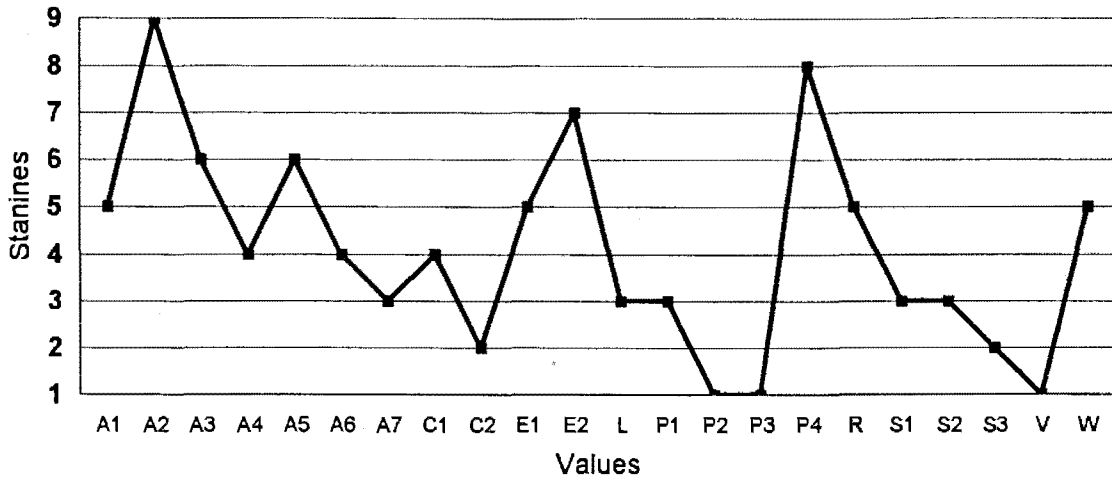
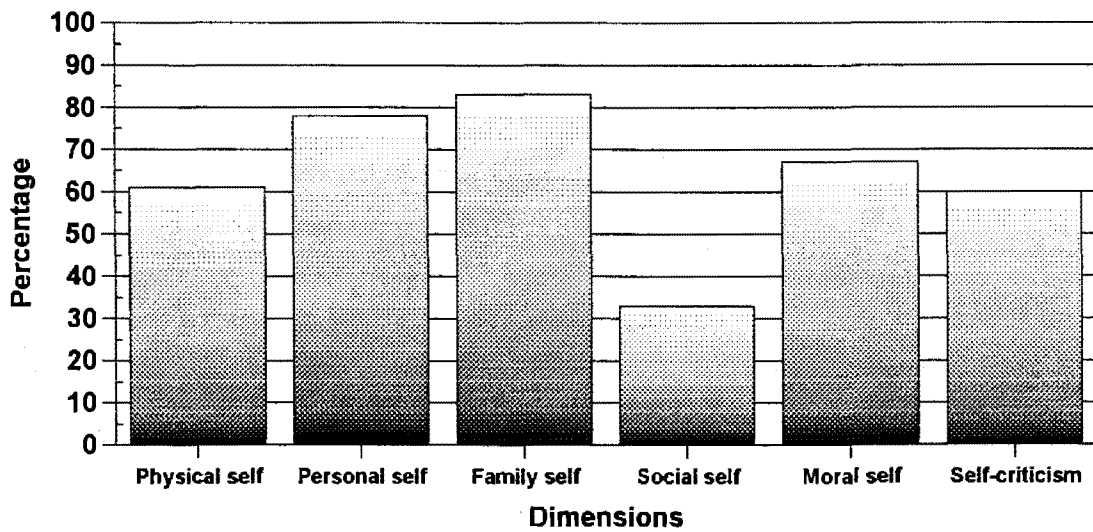


Figure 7.24:

Dimensions of the self concept - Eric



7.11. CASE STUDY 9: PHOEBE (female)

7.11.1. Background

Phoebe is 22 years old. She is presently studying for her LLB (law) degree. She first took Ecstasy in her second year at university, aged nineteen. After her first exposure to Ecstasy she went through a phase where she would take Ecstasy “religiously” every weekend. However, after hopelessly failing one of her end of year exams and having to write a supplementary exam for another, she soon realised that in order to keep up with the demands of her studies she would have to cut down on her partying. Nowadays Phoebe takes Ecstasy only on special occasions.

7.11.2. 16-PF PERSONALITY QUESTIONNAIRE

Of the sixteen possible scores, 8 of Phoebe’s scores are truly average, that is between stens of 5 and 6, indicating a likely tendency to suppress her personality traits. Phoebe has three high scores of 8 in the following factors E, Q1 and Q2:

Factor E is suggested as a measure of dominance. Phoebe tends to be assertive, self-confident and independent minded (Cattell et al 1970:86). She is headstrong and is likely to be rebellious (Golden 1979:111) and disregard authority (Cattell et al 1962:14). She feels free to participate in a group (Cattell et al 1970:86). Phoebe’s high score does not necessarily point to a domineering person who annoys those under her- she will also help and guide them (Smit 1996:292). Although this correlates with factors Q1 (a measure of rebelliousness) and L (a measure of suspiciousness) it nevertheless conflicts with factor M (a measure of imagination).

Factor Q1 is a measure of rebelliousness (Golden 1979:115). Phoebe appears to be inquiring, free thinking (Smit 1996:298) and is generally more well informed (Cattell et al 1962:17). She tends to experiment and be less moralising. She is likely to be more tolerant of inconvenience and change and less unquestioning about views (Cattell et al 1970:104). This corresponds with factor E (a measure of dominance) however it further contradicts factor M (a measure of imagination) where Phoebe is described as conventional and conservative.

Factor Q2 is a measure of self sufficiency. Phoebe appears to be a self sufficient individual who prefers depending on her own resources and her own judgements (Golden 1979:115). She is resolute and accustomed to going her own way, making her own decisions and taking

action on her own (Cattell et al 1970:105). She disregards public opinion but is not necessarily dominant in her relations with others. She does not dislike people but simply does not need their agreement or support (Cattell et al 1962:17). In group dynamics, Phoebe appears more dissatisfied with group integration and tends to be rejected (Cattell et al 1970:105). This appears to conflict with factor M (a measure of imagination).

Phoebe obtained a low score of 3 on factor M which is a measure of imagination. This suggests that she is conventional, practical and someone who is guided by objective realities (Cattell et al 1970:98). She tends to be anxious to do the right things and avoids anything far-fetched (Cattell et al 1962:16). Phoebe is likely to be serious minded, conservative and someone who is not overly imaginative or far seeing (Golden 1979:114). This contradicts factors Q1 (a measure of rebelliousness), E (a measure of dominance), F (a measure of impulsivity) and H (a measure of boldness).

Phoebe's scores which fall on the outer boundaries of truly average, that is 4 and 7, are as follows:

Factor F is a measure of impulsivity. Phoebe scored a high average 7 suggesting that she tends to be cheerful, talkative and carefree (Cattell et al 1970:87). She is inclined to be enthusiastic, alert and group involved (Golden 1979:112) and is frequently chosen as a leader. However, Phoebe may also be impulsive and erratic (Cattell et al 1962:14). This concurs with factors H (a measure of boldness), L (a measure of suspiciousness) and factor E (a measure of dominance) however it contradicts factor Q2 (a measure of self sufficiency) where she tends to be rejected in group dynamics.

Factor H represents the concept of boldness. Phoebe scored a high average 7 indicating that she tends to be sociably bold, jovial and adventurous (Golden 1979:112). She can be described as spontaneous, impulsive and ready to try new things. However she can be careless of detail and ignore danger signals (Cattell et al 1962:15). This is in accordance with factors Q1 (a measure of rebelliousness), F (a measure of impulsivity) and E (a measure of dominance) however it is in conflict with factor M (a measure of imagination).

Factor L is a measure of suspiciousness. Phoebe scored a low average 4 on factor L suggesting that she is trusting, free of jealous tendencies and tolerant (Golden 1979:113). She

is generally uncritical, is concerned about other people and is a good team worker (Cattell et al 1962:16). Phoebe can be described as easy going, friendly and relaxed (Cattell et al 1970:97). This corresponds with factors F (a measure of impulsivity) and H (a measure of boldness) however it conflicts with factor Q2 (a measure of self sufficiency).

7.11.2.1. INTERFACTOR RELATIONSHIPS

There were no interfactor relationships of significance.

7.11.2.2. SECOND ORDER FACTORS

Independence (factor QIV)

Phoebe scored highly (stanine of 8) on factor QIV, a measure of independence. Phoebe tends to be an assertively independent, adventurous person. She is a person who is generally difficult to get along with. The reason is that she is not simply aggressively independent, but chooses and enjoys doing things in her own individual manner. "I'll do my own thing in my own way" (Smit 1996:285). She will seek those situations where such behaviour is at least tolerated and possibly rewarded, and is likely to exhibit considerable initiative (Cattell et al 1962: 22). (See figure 7.25).

7.11.3. VALUES SCALES

Phoebe regarded the needs of economic rewards (7) and economic security (7) highly. She wants to maintain a high standard of living and be assured of being able to survive difficult economic times. She did not place much importance on helping others and being concerned about their welfare (altruism, 2). Phoebe did not perceive risk as being of any significance and did not appear to enjoy the excitement of danger in activities undertaken (risk, 3) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.26).

7.11.4. SELF CONCEPT

Although Phoebe possessed a high self concept, a stanine of 8, the following negative information emerged in the different dimensions of the self-concept test:

7.11.4.1. PHYSICAL SELF - relations with one's physical condition.

- ◆ Phoebe considers herself unattractive.
- ◆ She is usually untidy.

Figure 7.25:

Personality Profile of Subject 9 - Phoebe

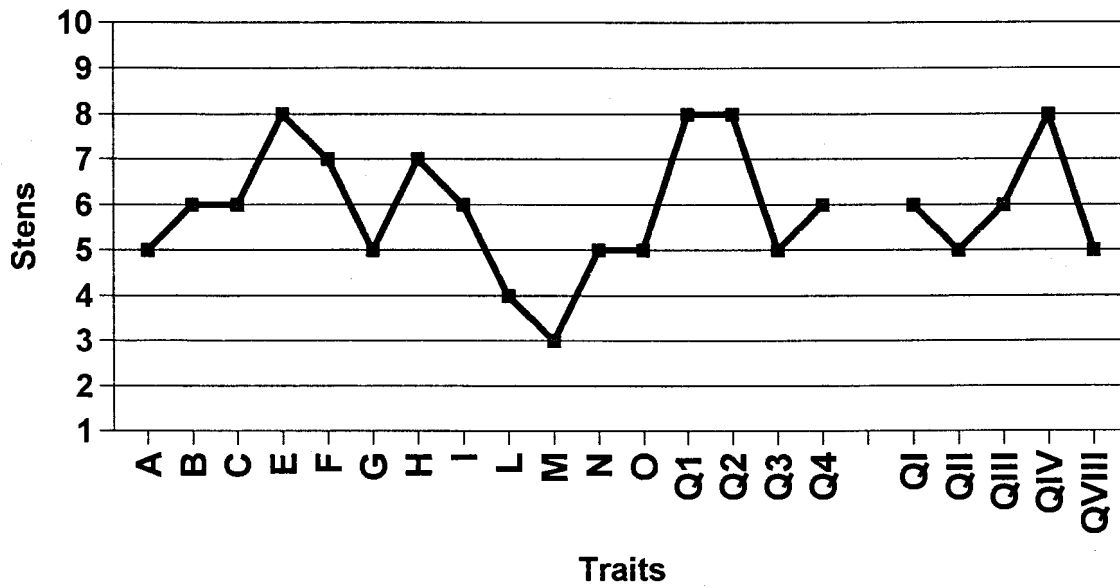
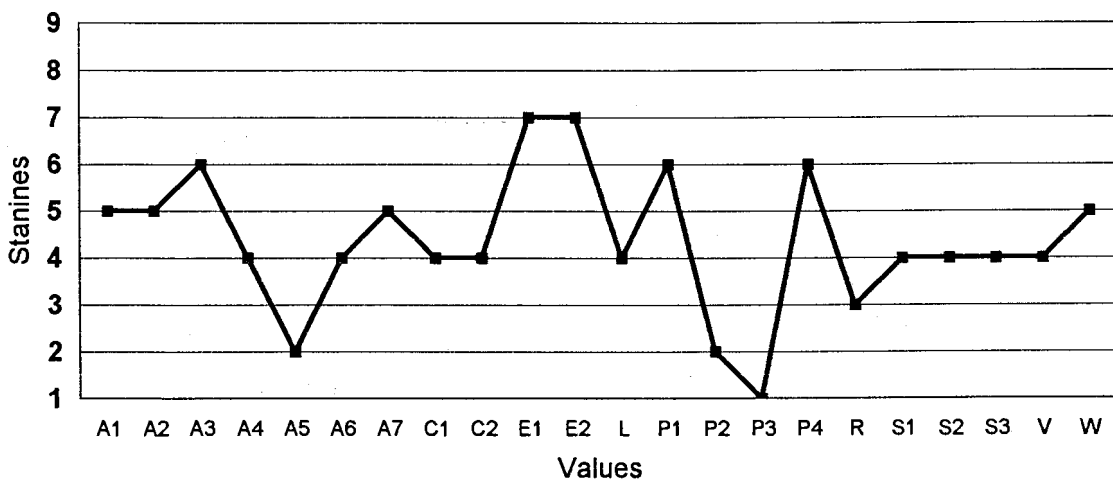


Figure 7.26:

Values Scales Profile of Subject 9 - Phoebe



- ♦ She often feels worried about her weight.
- ♦ She feels dissatisfied with certain aspects of her physical appearance and would change them if she could.
- ♦ She often feels guilty because she neglects her body.
- ♦ She is very nervous when she has to appear before a group of people.

7.11.4.2. PERSONAL SELF- *relations with one's psychological condition.*

- ♦ Phoebe is only cheerful when things go well.
- ♦ She is often peevish and moody for long periods.
- ♦ She is not satisfied with herself.
- ♦ She often acts without first considering the consequences of her deeds.

7.11.4.3. SOCIAL SELF - *relations with others in the social community.*

- ♦ Phoebe takes little interest in the doings of other people.
- ♦ She always finds it difficult to forgive someone who has accused her falsely.

7.11.4.4. MORAL SELF- *relationship to moral and religious values, that is moral-ethical self.*

- ♦ Phoebe does not trouble to return change when it is too much.
- ♦ She is someone who does not feel particularly guilty if she is compelled to tell a small lie.
- ♦ She often continues with behaviour even though she knows it to be wrong.

(See figure 7.27).

7.11.5. SENSE OF PERSONAL IDENTITY

Phoebe obtained a significantly higher raw score of 70 on the personal identity scales. This suggests a well developed sense of identity.

7.11.6. PERSONAL IMAGE

Phoebe appears to be individualistic. She is self-assertive and confidently aggressive. Although she tends to be self-centred she is not necessarily selfish. Phoebe can be considerate, adaptable and concerned about others. She is sociable and relates easily and comfortably with persons of both sexes. However she tends to possess the capacity for being dominant in many interpersonal relationships. She must therefore exercise considerable tact if she is to avoid

Figure 7.27:

Dimensions of the self concept - Phoebe

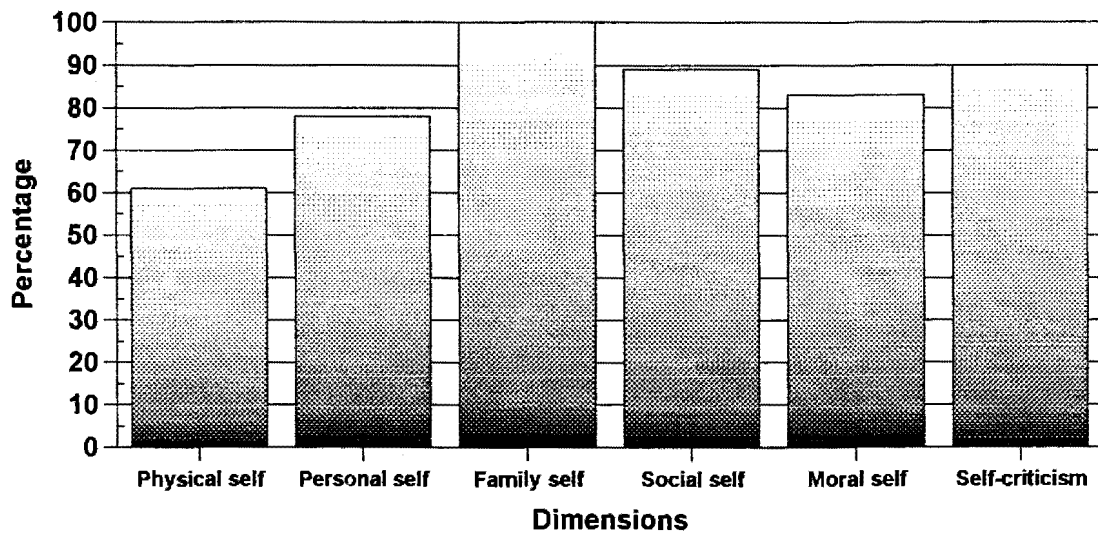
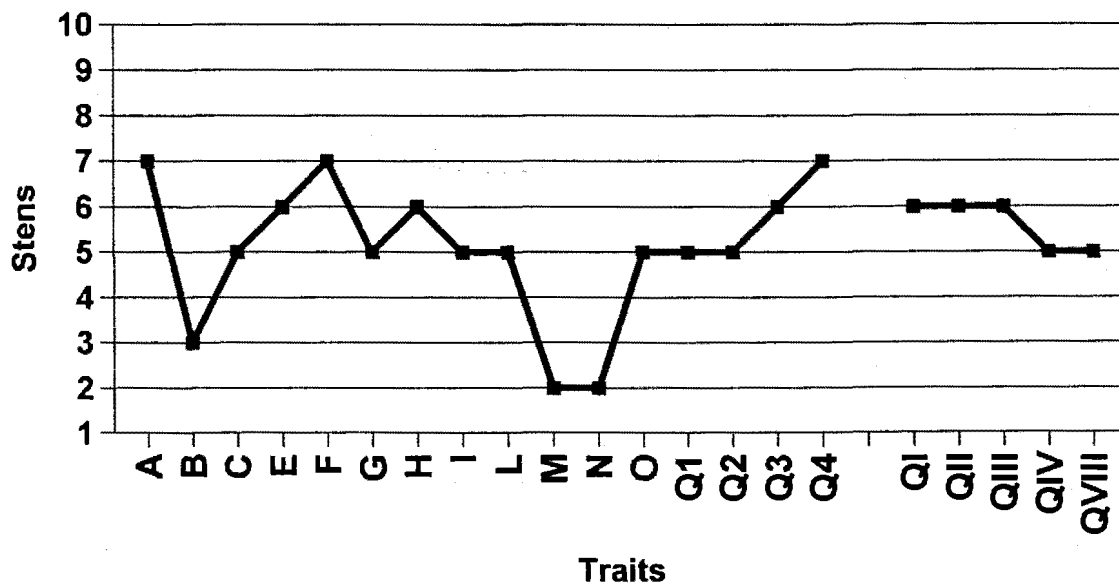


Figure 7.28:

Personality profile of Subject 10 - Shaun



provoking resentment in others. Phoebe is an independent minded, intellectually oriented individual who is inclined to question and analyze traditional beliefs. She tends to be experimental in her approach to life and keeps herself well informed. Phoebe is usually decisive and resourceful. She does not seek the support of associates in making decisions or in taking action and is not influenced greatly by public opinion. She is in the habit of going her own way and may tend to be seclusive, considering most social activities to be wasteful of time. Although Phoebe has a healthy appetite for adventure and likes trying out new ideas or methods, she possesses a high regard for order, morals and conventions.

7.12. CASE STUDY 10: SHAUN (male)

7.12.1. Background

Shaun is 22 years of age and employed as a computer technician. He believes information technology (IT) is the future and is studying for his MCSE (Microsoft certified systems engineer) on a part time basis. Shaun's first experience with Ecstasy was four years ago when he was eighteen years old and fresh out of school. His friends thought they would show him what a "fun time" was all about and popped a pill in his mouth at a Rave. Although Shaun still takes Ecstasy, he certainly does not miss those nights when the idea of taking 8 to 10 pills a night was enticing. Although such a habit was expensive to maintain, it was easily done as the dealers would allow him to buy on "tick" (take the drug now and pay at a later stage). Nowadays Shaun uses the drug occasionally.

7.12.2. 16 PF- PERSONALITY QUESTIONNAIRE

Of the 16 possible scores, 10 of Shaun's scores are truly average, that is 5 and 6, indicating a great tendency to suppress his personality traits.

Shaun obtained three low scores on factors B (sten of 3), M (sten of 2) and N (sten of 2).

Factor B is a measure of intelligence. Shaun's low score suggests that he tends to learn slowly, acquire insight with difficulty and is concrete in his behaviour (Smit 1996:290). Shaun is likely to be of lower self esteem, less well-organised, and quits as opposed to persevering (Golden 1979:110-111). Low scores on factor B may also be associated with anxiety, inability to concentrate as well as poor intelligence (Golden 1979:111).

Factor M is a measure of imagination. A low score suggests Shaun is conventional, practical (Golden 1979:114) and someone who is guided by objective realities (Cattell et al 1970:98).

He is likely to be concerned with immediate interests and needs (Smit 1996:296). He tends to be anxious to do the right things and avoids anything far fetched (Cattell et al 1962:16). Shaun is earnest, conservative and someone who is not overly imaginative or far seeing (Cattell et al 1970:98). This conflicts with factor F (a measure of impulsivity).

Factor N is a measure of shrewdness. Shaun's low score implies that he is a genuine, straight forward person with a natural warmth and liking for people. He is inclined to get emotionally involved easily, is very trusting and is unskilled in analysing others' motives (Cattell et al 1970:99). He tends to be socially clumsy but is easily pleased and content with what comes his way (Cattell et al 1962:16). This is in accordance with factors A (a measure of warmth) and F (a measure of impulsivity).

Shaun's scores that fall on the outer boundaries of average, that is 4 and 7, are as follows:

Shaun obtained high average scores of 7 on factors A, F and Q4. Factor A is theoretically a measure of warmth. Shaun appears to be a good natured, warmhearted, gentle individual. He is trustful and attentive to people (Golden 1979:110). He is outgoing, generally likes to be around people and is generous in personal relations. Shaun is inclined to be emotionally expressive (Cattell et al 1962:13). This corresponds with factors N (a measure of shrewdness) and F (a measure of impulsivity).

Factor F is a measure of impulsivity. Shaun can be described as happy-go-lucky (Cattell et al 1970:87). His score suggests that he tends to be cheerful, talkative and carefree (Cattell et al 1962:14). He is inclined to be enthusiastic, alert and group involved (Golden 1979:112) however, he may also be impulsive and erratic (Cattell et al 1962:14). This correlates with factors A (a measure of warmth) and factor N (a measure of shrewdness).

Factor Q4 is a measure of free floating anxiety and tension. Shaun appears to be characterized by tension, frustration and a generally highly anxious approach to problems (Golden 1979:116). He tends to be restless, irritable and impatient (Cattell et al 1962:18), with an inability to remain inactive (Smit 1996:300). One should also recognise that this factor is subject to daily fluctuations depending on the current status of the individual (Golden 1979:116).

7.12.2.1. **INTERFACTOR RELATIONSHIPS**

There were no interfactor relationships of significance.

7.12.2.2. **SECOND ORDER FACTORS**

Shaun obtained exact average scores of 5 and 6 for the second order factors. This is a further indication of suppressed personality traits.

(See figure 7.28).

7.12.3. **VALUES SCALES**

Shaun expressed the need for advancement (7). He wants to progress in his career and have a better income. Maintaining a high standard of living, having the financial capacity to keep it up (economic rewards, 7) and prestige (7) was important. Shaun wants to enhance and enjoy the beauty of processes, products and surroundings both natural and man made (aesthetics, 7). He regarded having an influence over others and encouraging them to follow a certain point of view very highly (authority, 8). He also deemed autonomy (8) as important, wanting to make his own decisions and having independence of action within his sphere. Shaun expressed the want to have the freedom to live his own life according to his own standards and values (own lifestyle, 7). He enjoyed the excitement of danger and risks incurred in activities undertaken or carried out (risk, 8) and did not place much importance on living his life according to religious principles (2) (Langley, du Toit & Herbst 1992:7-8). (See figure 7.29).

7.12.4. **SELF CONCEPT SCALE**

On the total scale, Shaun possessed an average self concept, (stanine of 6). The following negative information emerged in the different dimensions of the self-concept test:

7.12.4.1. **PHYSICAL SELF - relations with one's physical condition.**

- ♦ Shaun is usually aware of pain somewhere in his body.
- ♦ He feels tired and lethargic most of the time.
- ♦ Shaun is easily worried.
- ♦ He longs for more attention from the opposite sex.
- ♦ He is very nervous when he has to appear before a group of people.

7.12.4.2. PERSONAL SELF- *relations with one's psychological condition.*

- ♦ Shaun is only cheerful when things go well.
- ♦ He often experiences despair because he does not keep to his principles.
- ♦ He often acts without first considering the consequences of his deeds.
- ♦ He usually finds it very difficult to reach a decision.

7.12.4.3. FAMILY SELF- *relations with one's family and relatives.*

- ♦ Shaun's family is not very happy.
- ♦ His family seldom asks his opinion.
- ♦ He frequently misunderstands his family.
- ♦ Shaun does not take much interest in his family although he would like to.
- ♦ He often neglects his mother (parent).

7.12.4.4. SOCIAL SELF - *relations with others in the social community.*

- ♦ Shaun often feels that he is angry with the whole world.
- ♦ He often wishes that he could be more sociable.
- ♦ He always finds it difficult to forgive someone who has accused him falsely.

7.12.4.5. MORAL SELF- *relationship to moral and religious values, that is moral-ethical self.*

- ♦ Shaun is not very religious.
- ♦ He constantly worries/thinks about his religion.
- ♦ He feels guilty because he seldom goes to church.
- ♦ Shaun does not trouble much to return change when it is too much.
- ♦ He is someone who does not feel particularly guilty if he tells a small lie.
- ♦ Shaun often feels guilty about the ease with which he tells a lie.
- ♦ Shaun often continues with behaviour even though he knows it to be wrong.
- ♦ Shaun often feels unhappy because his life does not measure up to the high standards which others set for him.

(See figure 7.30).

Figure 7.29:

Values Scales Profile of Subject 10 - Shaun

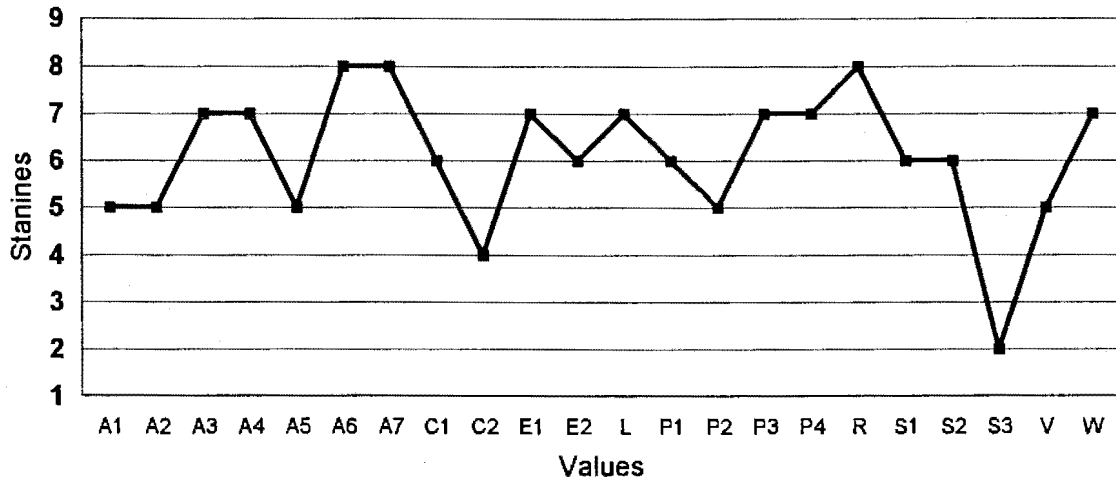
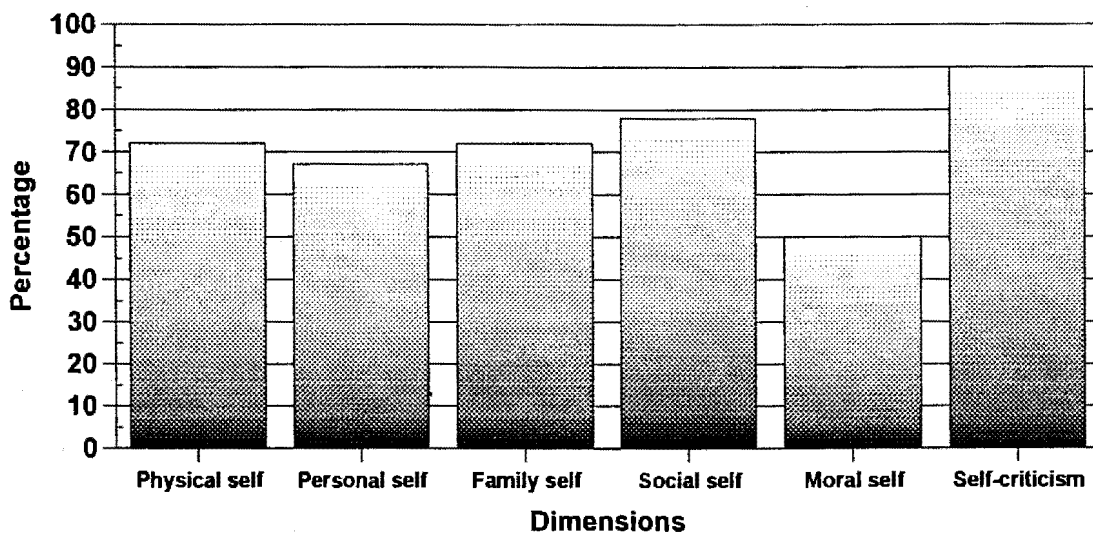


Figure 7.30:

Dimensions of the self concept - Shaun



7.12.5. *SENSE OF PERSONAL IDENTITY*

Shaun obtained a raw score of 65 on the personal identity scales. This is reflective of a high average sense of identity.

7.12.6. *PERSONAL IMAGE*

Shaun appears to be of low intellectual ability and lacking in self-confidence. He is likely to be less organised and quit as opposed to persevering. He is a practical individual who tends to be proper and matter of fact. He is inclined to be earnest, conforming and desirous of conducting himself in a conventionally acceptable manner. Shaun may be described as naive. He appears to lack self insight, is blindly trusting and unskilled in analyzing others' motives. He is easily pleased due to a lack of critical capacity. Shaun is a sincere person who is inclined to become emotionally involved easily. He is co-operative and sympathetic with his associates and tends to be cheerful, energetic and optimistic.

7.13. *GENERAL FINDINGS*

7.13.1. *16 PF- PERSONALITY FACTOR QUESTIONNAIRE*

Each person is unique and therefore each profile is unique. Although there is no one profile of an adolescent Ecstasy user, there are certain similarities regarding shared character traits which emerged from the subjects' profiles. In order to draw up this profile depicting which types of people were more likely to use Ecstasy, this researcher used the subjects' overall low (stems 1-3) as well as low average scores (sten 4) and the subjects' overall high (stems 8-10) as well as high average scores (sten 7). The exact average scores, that is stems of 5 and 6, were not considered in the delineation of this profile. As only ten subjects were used, at least sixty percent (60%) or six subjects (that is, more than half the total number of subjects) had to possess the same personality trait in order for that specific trait to be included in the profile. (See figure 7.31).

The results are as follows:

1. *Less intelligent (factor B-)* , (70% of respondents, 5 low scores and 2 low average scores).

Factor B is a measure of intelligence. From the findings, it appears that adolescent Ecstasy users are inclined to be less intelligent, that is they tend to learn slowly, acquire insight with difficulty and are concrete in their behaviour (Smit 1996:290). They are likely to be less well

organised and quit as opposed to persevering. Adolescent Ecstasy users appear unable to handle abstract problems (Golden 1979:110-111). This may be indicative of a low intellectual ability or poor functioning as a result of psychopathology (Smit 1996:290).

Heavy use of the drug Ecstasy can lead to persistent problems in remembering what is seen and heard. Researchers maintain that the memory impairment increases with the amount of MDMA taken and lasts at least two weeks after stopping use (Bolla et al 1998:01). The problems appear to be related to the damage Ecstasy does to particular brain cells that use the chemical serotonin for communication. This has serious implications for the student as it interferes with normal learning and memory. According to Bolla et al (1998:08) baseline intelligence influences the effects of MDMA on memory function. Individuals with lower intellectual abilities, display greater decrements in memory performance with higher doses of MDMA. This effect may be explained by the concept of cognitive reserve, which assumes that individuals with higher intellect have a higher threshold for developing neurocognitive effects after brain insult.

2. *Assertive (factor E+)*, (70% of respondents, 2 high scores and 5 high average scores). Factor E is suggested as a measure of dominance (Golden 1979:111). Adolescent Ecstasy users are likely to be assertive, self confident and independent minded (Cattell et al 1962:14). They are headstrong (Smit 1996:292), tend to be rebellious (Golden 1979:111) and disregard authority (Cattell et al 1962:14). They feel free to participate in a group (Cattell et al 1970:86). This correlates with factor Q1 (rebelliousness).

3. *Happy-go-lucky (F+)*, (60% of respondents, 3 high scores and 3 high average scores). Factor F is a measure of impulsivity (Golden 1979:112). These scores suggest that adolescent Ecstasy users are likely to be cheerful, talkative and carefree (Cattell et al 1962:14). They are inclined to be enthusiastic and group involved (Golden 1979:112). However they may also be impulsive and unpredictable or erratic (Cattell et al 1962:14). Adolescent Ecstasy users appear to possess faulty impulse control. This conflicts with factor Q4 (a measure of free floating anxiety and tension).

4. *Expedient (G-)*, (60% of respondents, 3 low scores and 3 low average scores).

Factor G is a measure of group conformity (Golden 1979:112). A low score points to disregard for rules, indifference and fickleness (Smit 1996:293). Adolescent Ecstasy users are likely to be self-indulgent, undependable (Golden 1979:112) and disregard obligations to people (Cattell et al 1970:88). They may be generally unconcerned about group standards or morals (Golden 1979:112). They are inclined to quit and can be described as slack and indolent (Cattell 1970:88). According to Cattell et al (1962:15) freedom from group influences in the person with a low factor G-score may lead to antisocial behaviour. This conflicts with factor N (forthright).

5. *Forthright (factor N-)*, (60% of respondents, 4 low scores and 2 low average scores).

Factor N is a measure of shrewdness. It appears that young Ecstasy users are likely to be genuine people with a natural warmth and liking for people (Cattell et al 1970:101). They are inclined to get emotionally involved easily, are very trusting and unskilled in analysing other's motives. They tend to be socially clumsy but are easily pleased and content with what comes (Cattell et al 1970:99). This conflicts with factor G (group conformity).

6. *Experimenting (factor Q1+)*, (70% of respondents, 6 high scores and 1 low average score).

Factor Q1 is a measure of rebelliousness. It appears that adolescent Ecstasy users may be associated with an inability to accept authority (Golden 1979:115). They are generally individuals who are inquiring, analytical and free thinking. They appear to be generally more well informed, are inclined to experiment and are less moralising (Cattell et al 1962:17). They are likely to be more tolerant of change (Cattell et al 1970:104). This correlates with factor E (a measure of dominance).

7. *Tense (factor Q4+)*, (60% of respondents, 2 high scores and 4 high average scores).

Factor Q4 is a measure of free floating anxiety and tension (Golden 1979:116). Young Ecstasy users may be characterised by tension, frustration and a generally highly anxious approach to problems (Golden 1979:116). They are likely to be restless, irritable and impatient with an inability to remain inactive (Cattell et al 1962:18). This conflicts with factor F (a measure of impulsivity).

Many reports from Ecstasy users who have experienced negative effects in association with taking Ecstasy suggest that the recurring theme may be anxiety disorders rather than depression. Jansen (1997:121) mentions the possibility that the serotonergic terminals in the brain involved in anxiety control, are a distinct subset from those primarily involved in mood control, and that Ecstasy may preferentially affect the former. However, it is more likely that the real explanation lies in the psychological effects of Ecstasy in terms of impairing psychic defences against anxiety generating material in the unconscious as discussed previously in chapter three.

7.13.1.1. INTERFACTOR RELATIONSHIPS

There were no interfactor relationships of significance.

7.13.1.2. SECOND ORDER FACTORS

1. *Independence (factor QIV+)*, (70% of respondents, 5 high scores and 2 high average scores).

Young Ecstasy users appear to be assertively independent, daring people (Cattell et al 1962:22). They are generally difficult to get along with. The reason is that they are not simply aggressively independent but choose and enjoy doing things in their own individual manner: "I'll do my own thing and in my own way" (Smit 1996:285). They will seek those situations where such behaviour is at least tolerated and possibly rewarded, and are likely to exhibit considerable initiative (Cattell et al 1962: 22).

7.13.2. VALUES SCALES

Most (60%) adolescent Ecstasy users scored significantly low on spirituality and altruism - an indication that religion and humanism is not of much importance in this day and age.

7.13.3. ADOLESCENT SELF CONCEPT SCALES

Half (50%) of the group of adolescent Ecstasy users possessed an average total self concept. Thirty percent (30%) had a high self concept while only two subjects (20%) held low self concepts. (See figure 7.32).

Figure 7.31:

Comparison of Profiles of Young Ecstasy Users

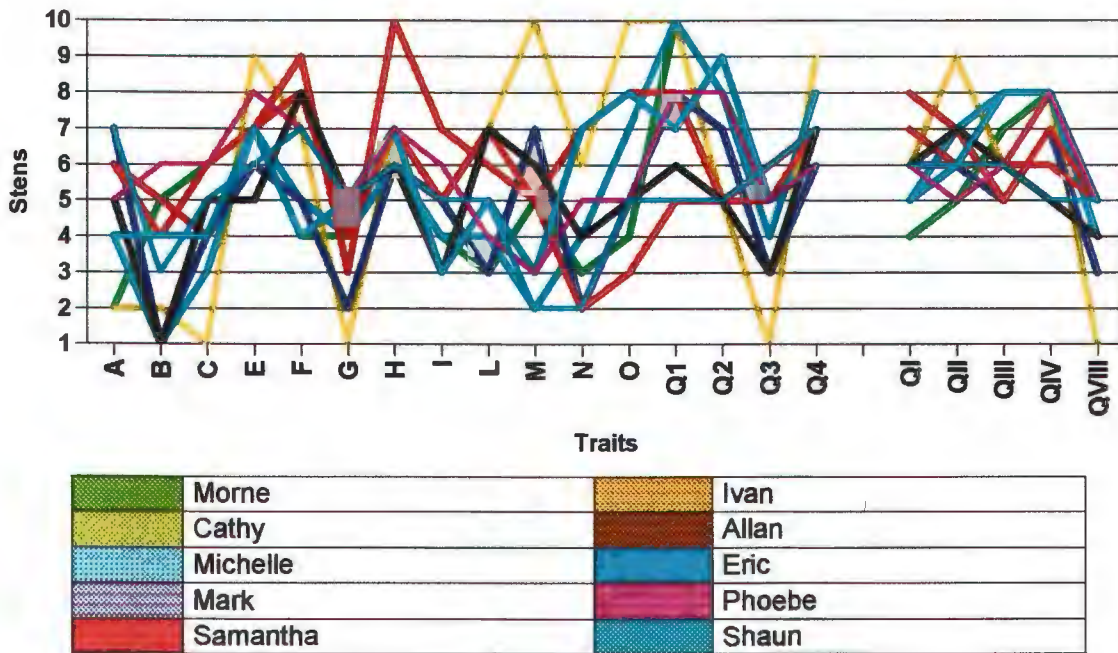
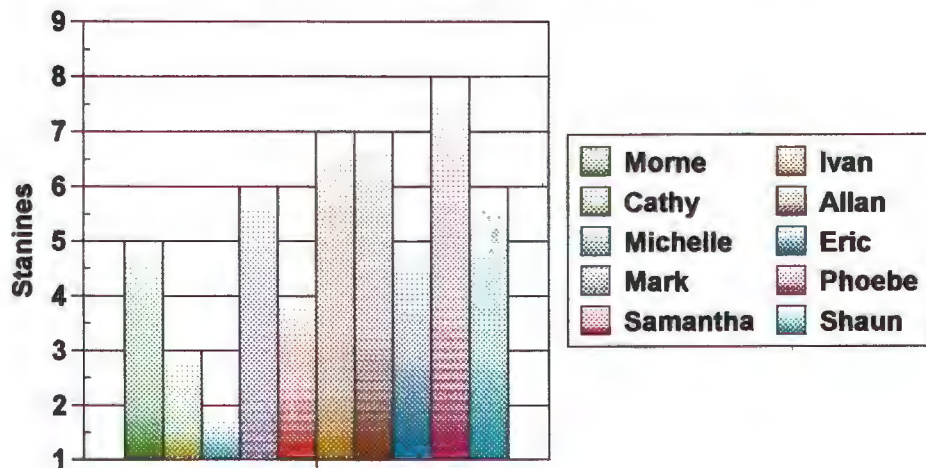


Figure 7.32:

Comparison of total Self Concept



7.13.3.1. MORAL/ETHICAL DIMENSION (the self in relation to moral and religious norms)

The moral/ethical dimensions of the self concept were found to be the most problematic. Regarding religion, seventy percent (70%) of adolescent Ecstasy users were not very religious, with fifty percent (50%) constantly worrying about their religion. For those subjects religion per se did not appear to offer them considerable inspiration, comfort or hope. Nevertheless, thirty percent (30%) experienced guilt feelings about not going to Church. Some (40%) often felt unhappy because their lives did not measure up to the high standards which others set for them.

Concerning their behaviour, eighty percent (80%) of adolescent Ecstasy users would often continue with their behaviour (rather than change it) even though they knew it to be wrong. Many (50%) would feel guilty about their frequent irresponsible behaviour and worry about their behaviour which often left much to be desired. Ninety percent (90%) of subjects did not feel particularly guilty if compelled to tell a small lie while thirty percent (30%) often felt guilty about the ease with which they told a lie. Forty percent (40%) often felt guilty because they neglected the virtues of honesty, integrity, loyalty and truthfulness, while some (40%) sometimes used questionable methods in order to be ahead in life.

7.13.3.2. PHYSICAL DIMENSION (the self in relation to physical aspects)

Sixty percent (60%) of adolescent Ecstasy users considered themselves unattractive. Fifty percent (50%) felt dissatisfied with certain aspects of their physical appearance and would change them if they could. Forty percent (40%) often felt guilty because they neglected their bodies rather than caring for their bodies to the best of their ability while some (30%) worried about their weight.

Most (70%) users suffered from anxiety and were easily worried while some (40%) were very nervous when they had to appear before a group of people. Seventy percent (70%) were usually aware of pain somewhere in their body (psychosomatic symptoms), while thirty percent (30%) felt tired and lethargic most of the time and lacking in energy. This could be a result of their drug taking.

7.13.3.3. **PERSONAL DIMENSION** (the self in its own psychological relationships)

Most adolescent Ecstasy users (60%) were not satisfied with themselves while some (30%) were envious of character traits which they perceived in others. With regard to their behaviour, sixty percent (60%) often acted without originally considering the consequences of their actions and many (50%) frequently experienced despair because they did not keep to their principles. Although many (50%) users were only cheerful when things went well, some (30%) were often peevish and moody for long periods.

7.13.3.4. **FAMILY DIMENSION** (the self in family relationships)

Although the group of adolescent Ecstasy users did not appear to have serious family problems, sixty percent (60%) sometimes had serious quarrels with members of their families. Forty percent (40%) were very sensitive to what their family said about them while others (30%) were often criticized by their families. Many (50%) of their families were not very happy and consequently they did not enjoy family gatherings.

7.13.3.4. **SOCIAL DIMENSION** (the self in social relationships)

Many (50%) adolescent Ecstasy users felt that they were angry with the whole world. Most (60%) found it difficult to forgive someone who had accused them falsely. Regarding their behaviour, fifty percent (50%) were usually reserved and self conscious with strangers. Forty percent (40%) were not very popular with the opposite sex. Forty percent (40%) often wished they could be more sociable. Thirty percent (30%) wished that others would show interest in them more often.

(See figure 7.33).

7.13.4. **SELF IDENTITY SCALES**

Regarding self identity, sixty percent (60%) of adolescent Ecstasy users possessed an average developed sense of identity while thirty percent scored significantly lower indicating that these subjects were still progressing through the identity development stage. One subject possessed a well developed sense of identity. (See figure 7.34).

7.13.5. **PERSONAL IMAGE OF ECSTASY USERS**

Young Ecstasy users appear to be strongly individualistic people who are self-reliant, assertive and confident. They generally possess a healthy appetite for adventure and the capacity for

Figure 7.33:
Comparison of dimensions of the self concept

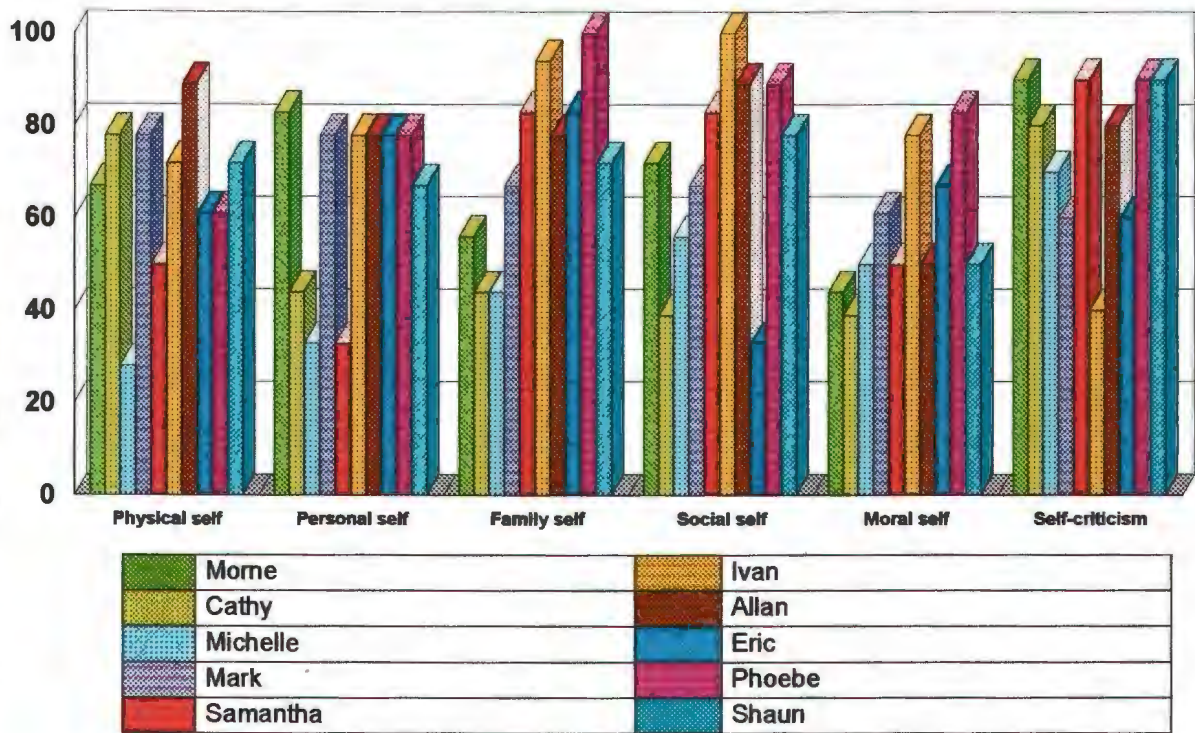
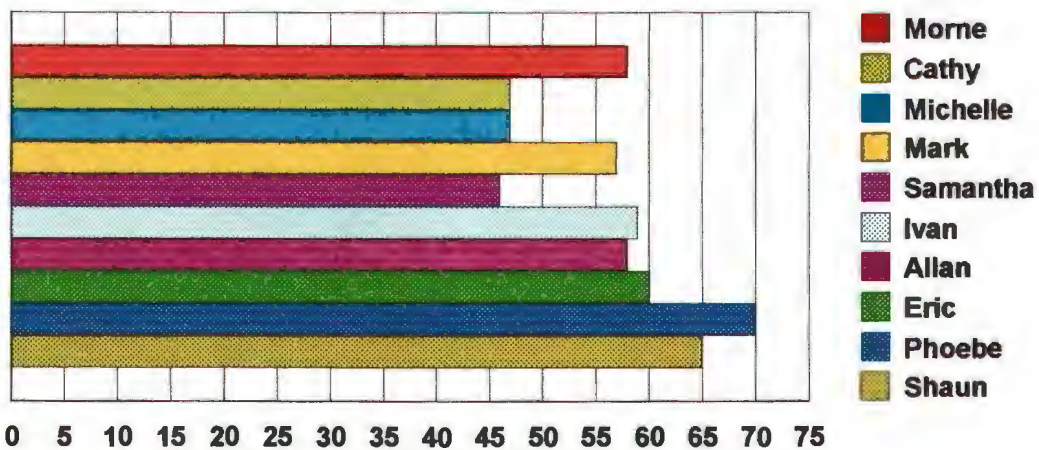


Figure 7.34:

A Sense of Personal Identity



Average scores for this scale are between 56 and 58.
(Standard Deviation between 7 and 8).

being dominant in their interpersonal relationships. They are generally difficult to get along with as they choose and enjoy doing things in their own individual manner. Young Ecstasy users are free thinking individuals who are strongly inclined to question and often disparage traditional beliefs. They do not appear to be very religious and are likely to be experimental in their approach to life. They tend to be indifferent and are generally inclined to be unconcerned about group standards or morals. They may possess a possible difficulty following the middle class virtues of honesty, integrity, charity and responsibility and therefore need to resist tendencies toward idleness, irresponsibility, emotional dependence and self pity. Young Ecstasy users are nevertheless sociable individuals who usually possess an abundance of energy and a high level of enthusiasm. However, they are inclined to be impulsive and erratic and thus appear to have faulty impulse control. Young Ecstasy users appear to be naive or gullible individuals who are easily pleased (due to their lack of critical capacity). They tend to lack social skills and self insight. They are blindly trusting and appear unskilled in analysing others motives. They therefore seem easily influenced by peers and drug pushers. Young Ecstasy users appear to be anxious individuals who are usually tense and irritable and seem easily annoyed by trivial matters. They are likely to feel frustrated and unsatisfied and tend to be easily moved to alarm or to anger. This anxiety may however be a consequence of the drug itself.

7.14. *DISCUSSION*

While adolescence is not an unusually problematic period for most youngsters, it is associated with more frequent negative feelings among many adolescents and increased rates of behavioural and psychological problems for some. Some problems seem to arise from the adolescent's increasing independence, his curiosity, his interest in new and unfamiliar experiences, his daring and tendency to take risks, or his tendency not to consider the point of view of others or the consequences of his actions (Schikendanz et al 1990:642). Other problems seem to stem from pre-existing psychological problems, poor self concept, inadequate ways of handling anger and aggression, alienation from family and society, the stresses of puberty and changes in family situations (Gouws & Kruger 1994:97).

Self identity is the developmental stage associated particularly with adolescence. It is really the sum total of the concepts individuals have about themselves (Fontana 1988:248). Young men and women begin to ask the all important question "Who am I?". If the question is answered

successfully, they develop a sense of identity. They make decisions about personal values and religious questions. They understand who they are and can accept and appreciate themselves (Burger 1993:129). Adolescence also marks the emergence of more mature life goals which are closely linked to the sense of identity. The understanding is: "This is the person I am, these are my abilities and my values, and this is what I want to do with my life," (Fontana 1988:249).

Unfortunately, as seen in the cases of Samantha, Cathy and Michelle, many people fail to develop this strong sense of identity and instead develop role confusion (Burger 1993:129). Erikson (1968) used the term identity crisis to refer to the confusion and despair people feel when they lack a strong sense of identity. Many adolescents have gone through periods in their lives when they felt uncertain about themselves, their values or their direction in life, when they were no longer sure that what they were doing held any value for them. Although these experiences with identity crises are typical in adolescence they are by no means limited to young people. Many middle aged people have gone through similar trying periods (Burger 1993:124).

According to Fontana (1988:251), role confusion implies that individuals have no clear idea of the kind of people they are or of the role that they should assume in life. They may show several different selves, low self esteem and insecurity or even the uncertainty and the constant self doubt and self questioning that is a feature of some kinds of neurotic behaviour (Burger 1993:130). One needs only recall Cathy's case as an example.

The search for self identity in adolescence is often accompanied by a great deal of experimentation. The adolescent tries out a number of different forms of behaviour as if asking, "Which of these different kinds of people is really me?" To help this process he or she will often adopt role models whose life styles and whose values are deemed worthy of imitation. Since identity is often expressed through the groups to which one belongs, the peer group becomes very important, and adolescents may change their behaviour, as well as ideas, values and opinions, in order to be accepted by it (Fontana 1988:249). At times the adolescent seems to identify himself with his peer group to the extent where instead of forming his own identity, he seems to lose whatever identity he has (Schikendanz et al 1991:631).

Conformity is especially powerful during the transition to adulthood. Everyday observation supports the idea that if being a raver is “in”, everyone goes to Raves, tries Ecstasy, drinks bottled water, wears funky clothing and dances all night long. Some will adopt the PLUR idealism and believe that Raves are instruments of social change while others participate just to take drugs and have a good time. Berndt (1979 in Durkin 1995:527) found that conformity to adults’ suggestions diminished with age, however, conformity to peers’ antisocial suggestions peaked at the age 14-16, seemingly reflecting aspects of the struggle for autonomy from parents. This was consistent with the findings of this study when one considers the ages of the subjects when initially exposed to drugs.

Conformity generally signifies a desire to be accepted by some social group. Wanting to be accepted by friends, participating in activities they don’t feel comfortable with (drugs, sex, smoking, drinking) and not having the resources to be part of the “in” group are all typical stressors of the adolescent years. Different peer groups exert different kinds of pressure just as adolescents’ susceptibility to peer pressure differs from one individual to the next (Omizo et al 1988 in Kruger 1992:119).

Nonetheless, the stress of resisting unhealthy peer pressure can be buffered by good family relationships and a high self esteem. According to Hendren (1990 in Kruger 1992:119) it is often those adolescents with neither (as in Michelle’s and Cathy’s case), who succumb to unhealthy pressure from peers. The influence of peer group pressure on the adolescent can therefore be questioned with justification but it is nevertheless a fact that many adolescents experience their parents as rejecting in this phase and are reliant on the peer group for that reason.

The striving for recognition and self-determination are especially important for the adolescent. He particularly displays the need to experience independence, freedom, love, acceptance and companionship. Du Toit and Kruger (1991:56) maintain that each conscious action of the adolescent is executed because he wants to, because he has a need or an aspiration which he wants to fulfill by means of the action. In the light of this consider the following example: Morne wants to take Ecstasy at the Rave (conscious action) because he has a need for acceptance by his crowd. It implies a goal, (in this instance acceptance by the crowd) which can be achieved by the action (taking Ecstasy) and the will (wanting) to reach it. The will is

the initiative underlying people's freedom of choice in decision making, their predisposition in favour of participation, and a directing force behind the performance of certain actions (Gouws & Kruger 1994:146).

Attitudes prepare the way for the adolescent's actions. They influence his perception with the result that he only observes that which confirms his attitude. Attitudes determine his involvement in, his experiences of and the meaning attributed to the matter which is linked to his attitude (Du Toit & Kruger 1991:59). Cathy, an avid raver, has a positive attitude towards Raves. She experiences them as pleasant, regards them as worthwhile and would certainly be seen there.

Various authors, Vrey (1974) and DuToit and Kruger (1991:59) are of the opinion that a cognitive component, an affective component and a behavioural tendency can be distinguished. For instance, the cognitive or meaning component refers to the ideas which the adolescent has about his Ecstasy use at Raves. The affective component refers to the adolescent's evaluation of Ecstasy use at Raves, resulting in pleasant or unpleasant feelings and experiences. The behavioural tendency in the adolescent indicates his behavioural readiness with regard to using Ecstasy at Raves. Attitudes have a motivating effect upon his actions which are related to the situation (Raves) or object of his attitude (Ecstasy).

Adolescents' attitudes also play a part in their eventual choices. Parents, teachers and the peer group contribute significantly to the forming of the adolescent's attitudes. Consequently it is usually the people closest to the adolescent who influence his attitudes towards such matters as values, religion, social issues such as drug abuse, sexual promiscuity and politics (Gouws & Kruger 1994:148). The peer group has a major influence on adolescents' aspirations and on their will to carry out a task.

The adolescent is confronted by a variety of situations where he has to make an increasing number of independent decisions and bear the consequences of such decisions. He also has to judge whether his decisions were right or wrong. According to Gouws and Kruger (1994:174) conscience is a person's inherent ability to distinguish between right and wrong. Moral values that influence conscience include honesty, loyalty, responsibility, appreciation, respect and a sense of duty. The functioning of conscience can change and diminish in certain circumstances.

For example, adolescents' sense of guilt about using Ecstasy may be eliminated as a result of their peer group's endorsement of the drug habit. Most (80%) adolescent Ecstasy users continued with their drug taking behaviour despite knowing it was wrong to do so.

People regulate their actions in accordance with norms, rights and obligations and if they disregard any of these, their conscience becomes active. The promptings of conscience also move adolescents to fix their wrong doing. In other words, they have to accept responsibility for the choices they have made, failing which they may suffer from guilt feelings that may lead to self recriminations, and therefore to a sense of shame, self hatred, self rebuke and anxiety (Hogan 1975 in Gouws & Kruger 1994:175). Many (50%) adolescent Ecstasy users expressed guilt feelings regarding their irresponsible behaviour and were worried or ashamed of their behaviour which left much to be desired. Many (50%) experienced despair because they did not keep to their principles and 40% felt guilty because they neglected the virtues of honesty, loyalty and responsibility.

In a diverse modern society where values and rules are variable and relative, the responsibility rests on the individual to direct his behaviour in accordance with values of his own choice. This responsibility can create problems for the adolescent because he is confronted by a bewildering variety of values without guidelines or rules to help him decide which of these to accept and which not (Thom 1990:418).

The peer group is a critical determinant in the development of a value system. Since acceptance by the peer group is essential for the adolescent, he conforms with the standards and limits for admissible behaviour set by the group. This is particularly the case in families in which parental influence has declined. As mentioned earlier in this discussion, adolescents primarily turn to peers in reaction against parental neglect and rejection. Adolescents who are surrounded by deviant moral values such as at a Rave may decide to take Ecstasy because of their environment. Such deviancy has its origin in the values represented by the surrounding subculture, in this case the ravers.

Religious disposition also influences the adolescent's moral development and behaviour. Thom (1990:419) notes that, religious youth display a livelier and more advanced sense of responsibility than irreligious ones. They see their future and that of humanity at large as

predictable and certain; they are less anxious, experience a greater sense of security, and identify themselves more readily with parental attitudes, values, and behaviour than do people who are not committed to a religious faith. Moreover drug and alcohol abuse and premarital sex are less prevalent among them than among their irreligious peers. In accordance with Thom (1990), most (70%) adolescent Ecstasy users were not very religious while 50% constantly worried about religion. Many (60%) were easily anxious, often felt angry with the whole world (50%) and were only cheerful when things went well. Many (50%) had serious quarrels with members of their families.

It will be recalled from Piaget (in chapter 2), that cognitively the adolescent has achieved the stage of formal operations and is therefore able to reason in abstract terms. As a consequence, many of the concepts associated with religion, politics and social relationships begin to take on a deeper and more complex meaning. Adolescents often call into question the activities and policies of the adult generation in these important areas. They may find such activities and policies inadequate and wish to see them replaced by more just or logical practices. Hence adolescence is often described as a period of idealism and this idealism may also be reflected in the kind of life goals that the adolescent chooses at this point.

When one considers the general findings of the values scales and the adolescent self concept scales, it appears that Ecstasy users are a-religious in the traditional sense of the word. Disillusionment regarding religion is increasing amongst adolescents and it seems that religion is not of considerable significance amongst Ecstasy users. In their search for identity adolescents are looking for answers but as Lottering (in Hoy 1998:09) maintains "all the traditional places are not providing these answers." While the church is no longer reaching the youth and less young people are responding to the traditional religion of their parents, the Rave scene with its own value system, its own morality and its own rules or lack thereof, is attracting more participants (Stiens 1997:15).

The Rave idealism of PLUR (peace, love, unity and respect) is appealing to many young people. PLUR provides hope and love in a world that is often characterised by despair. It functions as a mechanism by which people can come together without the pretence of hostility that is experienced in every day society. PLUR provides a way for people to live out their

values and openly encourage a certain type of behaviour in an increasingly aggressive and individualistic society. (*See chapter 4 for more detail*).

While Raves undoubtedly expose adolescents to drugs, they also provide them with an environment of social acceptance and belonging. Raves are symptomatic of the growing hunger among young people for relational connections and spiritual direction. According to Hoy (1998:06) spirituality in a post-modern society is reduced to what one can feel. It is no longer important to know what we believe or why we believe it but rather that "I" experience what "I" believe. The principal issue is unity. A sense of unity often develops among ravers in which personal creeds, race, gender, age, sexual preference and everything else on which society places so much emphasis simply disappears into the background (Stiens 1997:12) and an atmosphere of love, acceptance and belonging is created.

Rave culture may be perceived as a "religion" based on shared experience where individual religious beliefs are integrated into the larger unified experience (Stiens 1997:12-13). In many senses PLUR is the dogma that ravers believe in. It is the belief that for one night, a community can be created that does not function for the same reason that larger society does. It is the belief that peace and love are worth trying to bring back into a society that now seems so devoid of them.

These beliefs or goals may later have to be modified in the light of experience but for the present the adolescent may feel passionately about them and resent the apparent inability of elders to understand if not actively share this passion. Adolescence is the period during which adolescents begin to assume adult roles. They consider themselves as equal to adults and judge adults with complete reciprocity on the same plane as themselves (Rice 1984:184). Although they see the world as it really is they also envisage the world's possibilities. Therefore they often lose sight of reality and utopian solutions (like PLUR) are proposed for the world's problems. Since in their view reality often falls short of the ideal, they sometimes rebel against their parents and society as a whole (Gouws & Kruger 1994:54).

Adolescents' increasing independence and ability to solve their own problems cause conflict between themselves and what their parents think is right and good for them. Whereas they obediently believed what their parents told them and accepted their decisions as younger

children, they now weigh the possible against reality. For example: Parents tell their teenagers that taking Ecstasy will kill them. However, their peers provide role models of Ecstasy users who have not experienced negative consequences from their drug use. Adolescents become aware of the differences between their parents' assumed information and the actual facts and no longer believe their parents. Adolescents increasingly clash with their parents' values, interests, attitudes and opinions and form their own, usually very strongly held, opinions on these matters. Parents sometimes find it difficult to accept that their child is outgrowing his childhood and struggle to reconcile the child's pursuit of independence with their established educational practices (Gouws & Kruger 1994:110).

Adolescents are able to produce and explore hypotheses and to think about what might happen rather than being constrained by the here and now. According to Keating (1990 in Barnes 1995:290), further features of this adolescent thinking are that it can accommodate more than one dimension; it can regard knowledge as being relative rather than absolute; and it can incorporate self-reflection and self-awareness. It should nevertheless be noted that by no means do all adolescents- or adults for that matter- use this thinking in appropriate situations. Most (60%) adolescent Ecstasy users did not think of the consequences of their actions. Ecstasy users are quite capable of thinking what the consequences of consuming many pills would be yet they appear constrained by the here and now and instant gratification and happily "pop" another pill.

Adolescents are much more critical about themselves and constantly measure themselves against ideal models or against the peer group. They are capable of reflecting on their own ideas and try to enter the conceptual world of others. They are extremely sensitive about the impression they make on others and they want to be part of the group. Adolescents are egocentric in that they think others are just as preoccupied with them (regarding their appearance and behaviour) as they are with themselves. They fail to appreciate that other people may have their own, different theories and concerns (Durkin 1995:512) and persuade themselves that others share their favourite concerns. They therefore react to an imaginary audience. They have a sense of being on show, with the rest of the world focused on their thoughts, feelings and behaviour.

Adolescents also create a personal fable for themselves in which they are the leading figures that are uniquely unlike other people. This gives rise to the egocentric belief that one is above many of the world's mundane demands and risks: "I am different," "It won't happen to me," (Durkin 1995:513). This was a typical response from young Ecstasy users when questioned about their sentiments on Ecstasy fatalities. Adolescents' dangerous urge to disregard normal, safe behavioural limits is encouraged by an implicit and naive belief in a myth of their own invulnerability which originates from their typical self-centred perception of reality. Adolescents believe that they are special and that bad things only happen to others. They feel they are immune, even immortal (Schickendanz 1990:607).

The above mentioned beliefs and feelings were shared by many Ecstasy users. Taking 8-10 Ecstasy pills per party night may be inviting neurotoxic problems in the long term, however, Shaun, Allan and their friends believed that they were different and although very aware of the risks involved, continued to consume a large number of pills on a night out. Personal fable beliefs can be the underlying reason for some of the reckless, seemingly self destructive behaviour that is typical of adolescents. Their licentious experimentation with alcohol and drugs is based on the belief that nothing untoward can happen to them (Kruger 1992:42).

Consciousness of the imaginary audience often gives rise to intense self-consciousness, shyness and also a need for privacy (Kruger 1992:41). The adolescent is highly critical and analytical both about himself and about other people, including his parents. In his evaluation of a person he is capable of seeing beyond what is superficially observable. This observation and analysis of himself and others often makes him mete out harsh criticism to whatever comes under his scrutiny, including himself. He compares what he perceives himself to be with the image others have of him and becomes aware of how things are and in what way they could have been different. Most (70%) adolescent Ecstasy users were highly self critical.

Adolescents are very sensitive about things which affect their appearance. Being overweight and acne can damage their self image. The particular way in which he perceives his body - whether distorted or not - may therefore have important psychological consequences and may impede or enhance the forming of his self-concept, which is also influenced by what he considers to be other people's perception of him. He is particularly concerned about the impression he makes on his peer group and therefore conforms not only to the social

behaviour of the group, but at times also to their norms with regard to physical appearance and accomplishments. The degree to which the adolescent meets these criteria often determines how the group will behave towards him and how he will perceive and evaluate himself. This gives rise to mood swings from depression, anxiety and dissatisfaction to joy and happiness (Thom 1990:424). Most (60%) adolescent Ecstasy users considered themselves unattractive and were not satisfied with themselves as they were. Many (50%) were dissatisfied with certain aspects of their physical appearance and would change these aspects if they could.

According to Conger and Peterson (1984 in Kruger 1992:45) anxiety is a central determinant of behaviour because it produces thoughts, emotions and reactions that militate against the satisfaction of another need. An example of this, is the adolescent who has a drug problem but is too scared to confront his parents because he believes they will reject him. The adolescent's ability to contemplate himself introspectively is therefore important for the development of his self-concept and sense of identity (Gouws & Kruger 1994:53).

Although not all adolescents experience an identity crisis, most social scientists agree that an identity search and new self-discoveries characterise adolescent psycho-social development (Schickendanz et al 1990:663). In spite of their apparent assurance, adolescents are often prey to insecurity. While they search for identity, they are never sure that the people they are becoming will prove acceptable and successful in the adult world. They have learnt to cope with being children, but now they have to find out whether they can cope with being adults. Thus although they may seem unimpressed now by parents and teachers, the support and good opinion of such people is still vital to them (Fontana 1988:251).

In contrast with former belief, most adolescents do not want to sever their relationships with their parents. According to Schickendanz et al (1990:635) they rather want their parents to be expansive and flexible enough to accept all their experimentation and mistakes without rejecting them as people. Independence from parents therefore does not mean a total breach in relations but rather freedom within the family to make day to day decisions, emotional freedom to engage in new relationships and personal freedom to take responsibility for himself in such things as religious and political beliefs and future career (Kruger 1992:47).

It seems therefore that all adolescents seek certainty of identity, but that with some a stage of identity achievement is affected with greater certainty. However, even if the adolescent feels that he has assumed his own identity, this identity is not permanent (Kruger 1992:53). His personal identity will keep on changing throughout his life under the influence of various experiences he will be exposed to, expectations and demands that will be imposed on him and ideals he will pursue.

The final chapter will examine the shortcomings of this study, record the implications made on the basis of the research findings and offer recommendations for further study.

CHAPTER EIGHT
CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS
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8.1 INTRODUCTION

South Africa is witnessing an escalation in drug use amongst its high school pupils and students of tertiary educational institutions. Adolescents are experimenting more than their predecessors. There are a number of reasons which appear to be contributing factors to the increasing level of drug use in this country. Some of the reasons have to do with psychological processes. One such example is the high stress and anxiety levels of South Africans in general. Presently, South Africa is in a transitional phase and adolescents as well as adults are feeling very insecure about the future. Insecurity is going to predispose people towards finding a means of escapism and unfortunately drugs provide a very inexpensive and effortless way of doing that. Other reasons are as simple as availability. With the opening of the economic barriers, illegal drugs have flooded the South African market resulting in them being more freely available than they were five years ago. Consequently adolescents are going to be more frequently exposed to drugs.

The attitudes and behaviour of others regarding Ecstasy (MDMA) use are a strong influence on the adolescent's initial use of the substance. Initiation and continuation of use are supported by peer group involvement. Peers also provide role models of MDMA users who maintain they have not experienced negative consequences from their drug use. An important factor in initiating drug use is the degree of access to the substance. The availability of Ecstasy, the prevailing attitudes of significant others and the acceptability of drug use perceived within the adolescent's social network (such as at a Rave) make it easier for him to use it (Huggins 1996:539).

Attitudes about drug use have changed among young people and their perception of the risks has diminished at least in part as a result of popular media and entertainment portrayals of drugs in an acceptable or even in a positive light. (*See attached comic strip, figure 8.1*). For many adolescents, smoking, drinking and "drugging" represent rebellion and maturity. The media contributes to this illusion by linking sophistication with self-destructive, unrestrained behaviour and not prudent, thoughtful behaviour (Pipher 1994:202). The characters with self control are often portrayed as boring nerds. One need only consider the films *Loved up, Go, Human Traffic, Kids* and *54* (to mention but a few). The "normalization" of illegal drugs amongst adolescents appears to be becoming quite the norm particularly in the Rave, Goth and New Age hippy subcultures.

Figure 8.1: Media acceptability of Ecstasy use.

BASTARD BUNNY™ When did you Do Your Last E:



It is necessary that educators come to terms with the fact that illegal drug use is “here to stay” for the foreseeable future (regardless whether they like the idea or not). The researcher is not advocating or condoning the experimental use of drugs. However, the reality of the situation is that adolescents are going to do it and that is what educators need to recognize. At this point, there is no effective way of stopping adolescents’ exposure to drugs. Currently, there does not seem to be a way of preventing drugs from getting on to the streets, into the clubs, into the shopping malls and into the schools. Hopefully through government policy, drug enforcement and educational strategies, ways of minimising that will eventually be found. However the urgent question that arises is, what can be done in the meantime?

In this chapter conclusions from the said findings are drawn, recommendations are made, issues requiring further research are considered and the shortcomings of the present investigation are identified. The implications of this study for the adolescent, the parent, the teacher, the school and the future are briefly addressed.

8.2. CONCLUSIONS

The following conclusions can be drawn from the findings that emerged from the literature study and the empirical investigation. Not all drug use is pathological and some experimentation is normal. Curiosity and exploration are to be expected during adolescence. Some healthy, reasonably well-adjusted adolescents use drugs. In a Rave environment where young people are continually exposed to drug-related ways of behaviour, for example, taking Ecstasy to dance all night or to have a good time, the use of drugs becomes the accepted norm. Using Ecstasy at Raves is widespread and not necessarily a sign of anything except a desire to fit in and do what others do.

It is important to try to understand the context in which drug use occurs. Drug use occurs in young people as a result of complex and interrelated factors. These include peer group pressure, older sibling imitation or “copycat” behaviour, advertising, boredom, the need to experiment, the expectation that using will be a beneficial experience which enhances socialisation, positive experiences associated with an altered state of consciousness and the excitement of risk taking (McKeown 1998:01). However, some times drug use is a symptom of other problems. Adolescents go through many developmental changes. Often heavy drug use is a red flag that points to other issues such as despair, social anxiety, problems with

friends or family, a lack of support and guidance, pressure to achieve, a low self image, negative sexual experiences or difficulty finding a positive identity (Pipher 1994:191). Except in extreme cases, it is better to deal with the problems that inspire drug use and the problems that drug use causes.

In any matter concerning drugs, it is essential that those helping be properly informed about drugs and their effects on users. Many adolescents who take drugs are far more enlightened about aspects of drug taking than their parents or teachers, and it simply is not possible to appear credible or even discuss the problem effectively, if your basic facts are inaccurate. Of equal importance is the need for the public as a whole to develop a greater understanding why young people turn to drugs in the first place (Gillis 1994:107). The importance of drug education for educators, adolescents and Ecstasy users cannot be overemphasised. Accordingly, the researcher sees the function of educators taking on a whole new perspective.

8.2.1. Identification of Ecstasy or drug use in adolescents is imperative

The following are among the reasons why it is necessary to recognise drug use in adolescents:

- ◆ Underachievement and deterioration in scholastic performance can be prevented.
- ◆ Memory and concentration problems can be avoided.
- ◆ Learning problems can be averted.
- ◆ Further emotional, social or behavioural difficulties can be prevented.
- ◆ Drug related neuropsychiatric disorders or physiological ailments can be prevented.
- ◆ The forming of positive and constructive interpersonal relationships can be fostered.
- ◆ General mental health can be promoted.

8.2.2. Teachers can exert a greater influence on the adolescents' mental health

Because adolescents spend a large portion of their day with their teachers, teachers have a tremendous responsibility with regard to the adolescent's future career and life success. The primary duty of teachers is to impart knowledge about certain subjects to their pupils. Their secondary task, which is incumbent on them from a psycho-educational perspective, is to accompany the adolescent to responsible adulthood and to nurture his mental welfare. This task is often neglected because it is not realised that it is just as important as the first, and consequently the adolescents concerned contribute in their later life to the low productivity,

high absenteeism from work, poor economic conditions and the like that afflict this country (Kruger 1992:239).

It seems therefore, that it is not only desirable that teachers exert a greater influence on the mental health of adolescents, but that the need to perform this task is likely to assume increasing urgency in the future.

8.2.3. A disharmonious educational climate must be prevented

A disharmonious educational climate between parents and adolescents, as well as between teachers and adolescents is often the cause of stress in both adolescents and their educators. This may result in the adolescent making himself noticeable by engaging in unacceptable activities and behaviour that ultimately undermine his self concept and self actualisation. Both groups, but more particularly the educators since they are responsible for education, should strive to keep relations as amicable as possible. Unrealistic expectations, lovelessness, overprotection, mistrust, lack of self-control, rejection, inconsistency, authoritarianism, permissiveness and a morbidly excessive desire for achievement must therefore be avoided wherever possible (Kruger 1992:239).

8.2.4. Further research is essential

The identification of drug use in adolescents is essential, as is further research with a view to providing improved assistance to recognising the symptoms of drug use. Various aspects of the Ecstasy (MDMA) phenomenon should be subjected to thorough scientific investigation. Since recreational drug users are likely to experiment with various "cocktails" of substances, further research is required to explore the various drug interactions, both legal and illegal before the consequences of these can be fully understood. Follow up studies of Ecstasy users should also be carried out in an attempt to assess the long term implications of Ecstasy.

8.3. RECOMMENDATIONS

8.3.1. Teachers should be informed about current drug trends

Since the need for drug education is gaining importance for the general mental health of the public, it is recommended that teachers be equipped with at least a basic knowledge of the current drug trends. Teachers do not seem to have an understanding of the current drugs of abuse or the necessary skills to teach their students about the dangers of those drugs. By providing drug education and prevention training to teachers and exposing them to accurate

and current circulars and articles in periodicals published for teachers, they can develop an awareness of Rave participation and the escalating drug use and drug trends amongst high school children.

8.3.2. Documentation

The adolescent's problems and behaviour, as well as his academic performance and data obtained from standardised and unstandardised tests should be documented systematically in a personal pupil file. This information enables the guidance counsellor to compile an accurate personal image of the particular pupil (that is, an accurate description of the adolescent as a person) with the object of helping him. The recorded information can be a valuable resource when adolescents are referred for therapy to a professional person in the school related services. It could be valuable, for example, for a therapist to know from the outset if an adolescent has been experimenting with drugs for some time, or if s/he has been arrested for possession or dealing on school property or at a Rave. Since the guidance counsellor was entrusted with the private concerns of the pupil, it is essential that the information in the files be treated with strict confidentiality. Should it be considered advantageous during counselling to consult with others regarding confidential aspects discussed, permission to do so should first be obtained from the adolescent (Gillis 1994:87).

8.3.3. Better rapport between parents and teachers

There has been a growing need for teachers and parents to communicate with each other more frequently about the welfare of pupils. Parents should have the opportunity to conduct regular interviews with those in whose educational charge their children are. Such conversations must not be allowed to remain within the domain of vague generalities; instead they must be guided with reference to a fixed framework within which specific issues are considered, namely the adolescent's cognitive development, emotional development, social development and conative and normative development.

8.3.4. Better contact between school bound and school related services

Since teachers, besides parents are the first to notice that adolescents are experiencing emotional and social problems they should be equipped with knowledge concerning the functions of related occupations, such as those of educational psychologists, clinical

psychologists and psychiatrists. Teachers should be furnished with guidelines on how and when a pupil should be referred to one of the said related occupations.

8.3.5. *Parent support groups*

The organised forming of adult support groups for parents of adolescents is strongly recommended. Other parents can be valuable allies in their efforts to keep their adolescent children drug free. Parents must get to know the parents of their children's friends and share expectations about behaviour thereby developing a set of mutually agreed upon rules about curfews, unsupervised parties and places that are off limits. Helping adolescents stay out of trouble is easier when rules of conduct are clearly known and widely shared (<http://1998:02>).

Sharing experiences can provide insights that help parents deal with their children's behaviour. It also helps them to know that other parents have faced similar situations. Support groups should therefore pursue such goals as:

- ♦ providing information about the becoming and development of the adolescent by means of discussions, lectures and bibliotherapy
- ♦ providing information about the main problems and stressors accompanying adolescence
- ♦ offering support to groups of parents whose adolescent children suffer from the same problem, for example substance abuse, eating disorders and depression.



Source: McFadyean (1997:80)

8.3.6. Parental drug education

As educators, parents need to know about drugs so that they can provide their children with current and correct information. If parents have a working knowledge of common drugs and know their effects on the mind and body and the symptoms of their use, they can discuss these subjects intelligently with their children. Furthermore, well informed parents are better able to recognise if a child has symptoms of drug related problems (<http://1998:03>).

Objectives such as these should be followed through:

- ♦ making parents aware of the dangers of drug use to their children
- ♦ heightening parents' awareness of current and emerging drug use trends
- ♦ equipping parents to teach life skills and drug resistance to their children.

More than simply emphasizing the "say no" message, parents teach their children how to say no by involving them in discussions about drugs, role playing, practicing resistance and refusal skills, developing assertiveness, strengthening decision making and problem solving skills and analyzing peer and media influence - with the goal to promote abstinence from substance abuse through the practice of responsible behaviour and informed decisions.

- ♦ educating and motivating parents to take a proactive role.

When parents allow alarm to motivate their behaviour, they tend to react instead of being proactive and they do things that invite their children to have bigger problems. For example, many adolescents whose drug use is problematic choose not to tell their parents for fear of their parents' reaction and resultant rejection. Learning to be proactive instead of reactive is the better approach to the problem of drugs.

8.3.7. Adolescent discussion groups

In these groups, any topic regarding the various aspects of adolescence is raised and discussed informally and in depth, within a group context by teenagers under the guidance of a specialist.

8.3.8. Identifying drug use

There are many adolescents who have an initial experience with Ecstasy (MDMA) who do not become repetitive users and many who do become repetitive users do not become dependent. The cause for each stage is different. Different people may be influenced by various situations, producing diverse behavioural effects. The same behaviour may have dissimilar causes in other

people. What stimulates or motivates one person to engage in substance use may not stimulate another. Every person is unique and must be assessed individually (Huggins 1996:539).

Some recommendations towards achieving this end are expressed:

- ♦ The unique nature of the individual adolescent and of his attribution of meaning to, experience of and involvement with drugs must be investigated.
- ♦ Identification of drug use must lead to assistance.

Parents should ascertain the facts regarding the adolescent's suspected drug taking and if they have reason to believe drugs are being used, they need to make their feelings known. The reasons or evidence for their suspicions must be clarified, emphasising that they are raising the matter not because they are angry but because they are concerned and because they care. The underlying message should be that they feel if a problem exists they would like to be brought into the picture, to understand more about it and to help (Gillis 1994:120).

Educators should encourage an exchange of views and be prepared to listen, but firmly reject any attempt to play down or confuse the drug issue itself. More often than not, the first reaction is one of denial, in which case, if suspicions still remain, it must be made clear that the matter is by no means closed, but will be reviewed on a regular basis. If excuses of one kind or another are given, precise details must be insisted upon and checked. Where friends are blamed or incriminated, ask to meet with them in order to discuss the matter openly. Furthermore, if an underlying personal problem, for example, lack of self confidence is raised in mitigation, educators should arrange to deal with it separately at a later stage so that the issue of drugs remains central to the present discussion (Gillis 1994:120).

Where it is agreed that a problem does exist, unhelpful reaction in the form of anger or criticism should be avoided, focusing rather on the facts of the present situation and the proposed action to be taken. The approach should be supportive but "tough". Firstly, in the sense that as a parent your attitude towards drugs is inflexible and secondly that something has to be done. As a parent you do not want your child to take drugs. However, if you find out that he is, you want to have some effect. Clear guidelines and requirements should be set out by parents. If it becomes necessary, parents should explain that they have both the responsibility and the authority to enforce them and that they intend to do so (Gillis

1994:120). If appropriate, guidelines may be incorporated in the form of a written contract, detailing also the action which will be taken in the event of a breach of contract, for example the loss of specified privileges.

If the drug taking problem appears to be more serious, or is not limited to isolated incidents, assistance should be obtained without delay from a person or organisation with specialised knowledge on the subject. This may be the family doctor, a psychologist, a school counsellor or an organization (like SANCA) concerned specifically with the aspects of drug abuse. (*See list of contact numbers*). Should there be resistance to this approach, parents should consider asking the adolescent to suggest someone of his own choice. They should emphasise that treatment would involve the adolescent being helped to understand and deal with the reason why he turned to drugs in the first place and to cope with the accompanying problems that drug taking or use creates (Gillis 1994:121). Goals of treatment are likely to be the reduction or termination of drug use.

8.3.9. Individual counselling and cognitive /behavioural therapy

A non-judgemental attitude may be helpful at the outset to create a trusting relationship, as some adolescents have difficulties with authority figures. However, Rogerian-style unconditional positive regard and empathy are typical effects of Ecstasy and it is reasonable to suppose that some users may occasionally respond better to firm limit setting and reality orientation (Jansen 1997:127).

Denial is an important defence mechanism. The following statement is echoed by many Ecstasy users: "Everyone knows that E's are not addictive, I can stop anytime I want." Denial can be dealt with using facts from the person's life rather than research findings (Jansen 1997:127). Consider this as an example : "Let us examine the effect that taking eight 'E's' every weekend is having on your studies... on your finances... on the way you feel by midweek... on your life in general now that you have been arrested for possession at a Rave club and charged with intent to supply because you bought a big bag of pills to save money... on your relationship with a drug runner... on your increasing tendency to smoke marijuana for the comedown... on your health... on your family..."

This approach may be more effective than discussions about serotonergic terminals in the human brain.

8.3.10. Group counselling and adolescent support groups

The organised forming of support groups for adolescents is strongly recommended in order to offer support to groups of adolescents suffering from the same problem, for example substance abuse. In the give and take of group therapy, adolescents may be able to face the consequences of their psychological dependence on Ecstasy (drugs) and to see new possibilities for coping with it.

8.3.11. Drug education and prevention programmes

Drug education is important. It can save lives and reduce the harm that drugs can cause. However, who actually gives the advice can be decisive on whether it is heard or not. Young people do want advice on drugs from people who know what they are talking about. They are more likely to accept advice if it comes from people who have used drugs themselves, people who know what pitfalls to avoid and who won't exaggerate the dangers (Williamson 1997:71). These are the people who should be going around to the schools and youth clubs. Adolescents will listen attentively and talk openly about their experiences when they are confident that they will not get reported for what they have done. There is no point in using authority figures like the police and some teachers, as most adolescents will feel inhibited from discussing their drug experiences. Furthermore, those who are most likely to use drugs will ignore them simply because they are authority figures and because their information is mostly second hand.

8.3.12. Harm reduction approach

As seen in this study, adolescents still continue to use Ecstasy (MDMA) despite having some knowledge of the dangers involved. For this reason, a non judgemental harm reduction approach appears to be one of the ways forward. According to Cohen, Clements and Kay (in Rosenbaum 1996:15) harm reduction drug education is secondary rather than primary prevention. It is education about rather than against drugs. Such an approach does not preach abstinence, it does not criticize drug users nor does it condone drug use. It nevertheless accepts that drug use does and will continue to occur, and simply presents the facts and advice in a way that young people can relate to. Regarding the harm reduction approach, one is not saying that drugs can be taken safely. There is no "safe" way to take drugs. All drugs carry

some sort of risk no matter how small it may be. Harm reduction is potentially life-saving information going out to young people. As such, it is “user education”. (*See appendix VI*).

In the light of this, consider the following example adapted from Williamson (1997:70):

“If you are not dancing or you are taking Ecstasy at home, you won’t need to drink as much water. There have been a few rare cases of people dying from drinking too much water when they are not dancing. This results in the body retaining excess fluid and the blood becoming diluted, so only drink enough water to quench your thirst and listen to your body.”

As formerly mentioned in chapter one, Leah Betts was one of the rare cases in the United Kingdom who died from cerebral oedema as a result of drinking too much water because she thought it was the right thing to do when taking Ecstasy. The tragedy of it all is that if she and her friends had been aware of such non judgemental, factual information, she may have been alive today.

Harm reduction is not the same as “some” harm reduction. One cannot pick and choose which drug users are going to be helped. Harm reduction means reducing as much of the harm associated with all drug use (both legal and illegal) as is humanly possible. This does not just mean advice or education on “safer” drug practices but also means providing the facilities and support necessary to help all drug users (Williamson 1997:70-73).

A practical approach to drug education includes the tenets of a “harm reduction” perspective. For a variety of social, cultural and personal reasons, drug use (illegal or legal) will never be eliminated. Thus educators must assume the existence and use of psychoactive substances and focus on reducing the harmful effects (Rosenbaum 1996:17). As Duncan (in Rosenbaum 1996:17) states, this approach may run contrary to that of traditional drug educators:

“Many health educators will be uncomfortable with this direction. They may see it as a surrender in the war on drugs. Others will see it as a refocusing of our efforts on what really matters for health education- the prevention of health problems. It is the proper role of health educators to help people live healthier lives and not to act as moral police.”

Drug education should be based on realistic assumptions about drug use. Specific goals and programmes should not lose sight of the fact that human beings are complex, human behaviour is always changing and adolescents are intelligent and critical. Programmes must address the needs of individuals within their social context and be as adaptable and open as the young people they must educate (Rosenbaum 1996:17).

8.4. IMPLICATIONS OF THIS INVESTIGATION

8.4.1. Implications for the adolescent

The lack of formal scientific research regarding the nature and effects of Ecstasy (MDMA) has given rise to the impression amongst adolescents that Ecstasy is a generally safe or harmless drug. The absence of apparent immediate negative or debilitating effects of Ecstasy coupled with the lack of information being taught to students in drug education programmes where other frequently encountered drugs are discussed, may encourage students not to question initial or subsequent use of MDMA. By excluding "full" discussions of MDMA within such programmes, awareness of its potential dangers may be minimised if students perceive this drug not worthy of discussion or that it is of minimal risk or danger compared to other drugs that are included in the programme (Elk 1996:355).

If anything, the lack of information about the use of MDMA should be interpreted and portrayed to students as an even greater danger in itself. Although conclusive data remains insufficient, there are some general qualities and possible dangers inherent in using this drug that are suggested by the information gathered in some scientific as well as informal studies and surveys to date. Therefore including discussion of some of the consistent data gathered thus far can only assist students in becoming more aware of the dangers of taking Ecstasy and possibly deter their initial or future use of it (Elk 1996:355).

The present study lends prominence to the Ecstasy phenomenon and to a realization of the harmful effects of Ecstasy in all domains of the adolescent's development which may include impaired ability to concentrate, learn and remember with resulting social, economic and personality deterioration as well as possible neurotoxicity such as the degeneration of neurons and the development of age-related cognitive impairment or senility. Awareness amongst parents, teachers and adolescents alike of the dangers of Ecstasy is imperative.

Adolescents must also understand the legal consequences of Ecstasy use in South Africa. With increasing methods of detection such as school drug testing and escalating “zero tolerance” efforts, drug education must acknowledge illegality as a risk factor in itself, extending well beyond the physical effects of drug use (Rosenbaum 1999:13). There are real, lasting consequences of using drugs and being caught at school, at a Rave or a club. These include expulsion from school, police arrest, a criminal record for possession of an illegal substance, denial of university loans and a lasting stigma.



Source: McFadyean (1997:159).

8.4.2. Implications for the parents

Every family has expectations of behaviour that are determined by values. Adolescents who decide not to use drugs often make this decision because they have strong convictions against the use of these substances. These convictions are based on a value system. Social, family and religious values give young people reasons to say no and help them stick to their decisions (http://1998:01). Parents as the primary educators must realise their duty to serve as models representing good values and habits for the benefit of their children. Children learn by example as well as teaching, thus parents should ensure that their actions reflect the standards of honesty, integrity, responsibility and fair play that is expected of their children.

Parents will have to become increasingly sensitive to the mental welfare and emotional stability of their adolescent children. They will have to ensure that from an early age their children acquire habits that are conducive to a healthy life style where work, rest and recreation are

concerned. Parents will also have to ensure that their discipline is appropriate to the developmental level of the adolescent, that the home and the family offer the adolescent a haven of security and that the child is not unnecessarily burdened with stress owing to the unrealistic expectations, status consciousness or ambitions of his parents (Kruger 1992:244).

Many parents hesitate to discuss drug use with their children. Some believe that their children could not become involved with illegal substances. Others delay because they do not know what to say or how to say it, or are afraid of putting ideas into their children's heads. Parents should not wait until they think that their child has a problem (<http://1998:05>). Many adolescents say that they had used Ecstasy (MDMA) for at least two years before their parents knew about it. Parents must begin early to talk about drugs and keep the lines of communication open. They should not be afraid to admit that they do not have all the answers. Parents should let their children know that they are concerned and that they can work together to find the answers.

Nelson, Intner and Lott (1993:119) offer the following advice to parents on talking to their children about drugs:

"You cannot stop your kids from trying drugs, or even from abusing them, if that is what they decide to do. What you can do is practice honesty, equip your kids with accurate information about drugs, keep the doors of communication open by letting your kids know your love for them is unconditional, and remain non-judgemental by creating a relationship where your kids feel safe to talk to you and get your input about their choices. When you abstain from judgements, your kids know that if they get into an abusive situation with their own experimentation, you will be there with honesty, love and support that is empowering instead of disabling."



8.4.3. Implications for the teacher

The teacher will have to assume the responsibility of accompanying the adolescent to a mentally healthy maturity. Teachers will have to familiarise themselves with the signs as well as the consequences and methods of handling drug use and abuse and attempt to incorporate drug education into their subject area. In particular, the teacher as the mentor of the adolescent will have to improve the educational guidance he offers the pupils in his classes. Additionally he will have to demonstrate an active interest in the various aspects of his pupils' total make up including their personality, self concept, values, interests and abilities.

8.4.4. Implications for the schools

Schools will have to assume the responsibility of being involved in addressing the escalating drug problem and implementing drug education and prevention programmes in their schools, despite the risk of loss of prospective pupils as a result of certain parents thinking that there is a drug problem in that school and sending their children elsewhere. Parents need to send their children to a school that admits that there is a possibility of them being exposed to drugs in their high school years and explains that this is what the school intends to do about it, rather than to a school that repudiates the problem. Schools need to support youth and peer counselors and well designed up-to-date youth programmes such as TADA (teenagers against drug abuse) that provide the children with the tools they need to resist drugs and offer positive alternatives to drug use. Drug education needs to become a regular part of the curriculum and be available to children in every grade.

8.4.5. Implications for the future

Some disturbing trends among children aged 9-12 are the following:

- ♦ They are less likely to see drug use as harmful.
- ♦ They are less likely to receive anti-drug information.
- ♦ They are more likely to see drug use as acceptable.
- ♦ They are more likely to report having friends who use drugs.

(Source: 1999 Partnership Attitude Tracking Study).

The normalization of illegal drugs among adolescents appears to be trickling down to younger children. Society places an enormous emphasis on the gratification of every need. Advertising teaches that pain, both physical and mental, can be handled by consuming certain products

(Pipher 1994:202). Drugs are commonly used. For a headache there is Panado. For depression there is Prozac. For temporary insomnia there is Nytol. For anxiety there is Biral. A wife hears of her husband's death and she is given Valium to calm her down. A man who is "stressed out" from work pours himself an alcoholic drink to relax. A parent smokes to unwind. One student goes to a Rave and takes Ecstasy as a stress release while another takes it as a sociability enhancer. Our culture has developed a "feel good" mentality. Even in the context of schools, today's children have witnessed the "Ritalinization" of difficult-to-manage pupils (Rosenbaum 1999:07). In this context, some psychologists argue that experimentation with mind-altering substances, legal or illegal, might instead be defined as normal, given the nature of our culture (Rosenbaum 1999:07).

With children less resistant to drugs as they enter adolescence, the implications for the future are not encouraging.

8.5. MATTERS REQUIRING FURTHER RESEARCH

The researcher feels that in view of the information obtained from this research study, it may be worthwhile to carry out further investigations regarding MDMA use on a much larger scale. The following should be emphasised:

- ♦ the importance of controlled studies

Although it is possible to use Ecstasy (MDMA) in a controlled responsible way (Rosenbaum 1996:12), concern is expressed that the number of Ecstasy pills consumed by young people in some cases greatly exceed the "advisable" normal human dosage.

- ♦ rendering assistance in the school context to adolescents who are exposed to, or who have used Ecstasy or other drugs
- ♦ the effects of continued Ecstasy use on the process whereby the adolescent's identity and self concept are formed
- ♦ the effects of continued or prolonged Ecstasy use on academic achievement
- ♦ the influence of religious affiliations as a buffer against potential Ecstasy use
- ♦ the connection between prolonged Ecstasy use and self actualization

8.6. SHORTCOMINGS OF THIS INVESTIGATION

The sample size used for this empirical investigation was fifty MDMA users of which only ten were used for the case studies. This sample size is regarded as being relatively small. As such, the results obtained from the standardized tests representing the case studies can not be projected onto a large population. However, the results are accepted as valid for this experimental group and as such, can be seen as a pilot study for further investigation and research with larger groups which will consequently allow generalisations regarding the personalities of young Ecstasy users to be made.

8.7. CONCLUSION

While the popular and professional media have been abuzz over the past decade about recreational drug use, it is only recently that Ecstasy (MDMA) use at Raves has begun to receive the attention it deserves. Although media reports at times portray MDMA as a short-term fad, this description is most likely inaccurate. The perceived therapeutic and /or euphoric effects combined with the ease with which MDMA is usually taken, will continue to attract new users (Beck & Morgan 1986:299). A danger in this regard is there are potentially severe health risks associated with MDMA and probable contraindications. This is especially true with repeated use of high dosages amongst many ravers which may lead to acute chronic medical and psychological problems. Unfortunately, present knowledge regarding MDMA is quite limited. Most of the available information about MDMA to date has been acquired through uncontrolled clinical trials and descriptive reports, therefore research is greatly needed to determine the potential benefits and risks of a substance which has established itself in the Rave culture.

The confusion and controversy induced by the designer drugs concept is an example of the growing and increasingly complex "drug technology". Individuals of all ages are surrounded by an environment that advertises and encourages the use of a wide range of legal and illegal substances. Huge sums of money are spent each year promoting prescription drugs, over the counter drugs and recreational drugs. Private and government sources indicate that despite intensified prohibition efforts, illegal drugs are so readily obtainable in most communities that one has to wonder if their easy availability is not advertisement enough (Beck & Morgan 1986:299). Logical reasoning may suggest that the more readily available a drug is to a

person, the more likely it is that that person will consume the drug. Similarly if the drug is not available, then this is a barrier to consumption (Parker et al 1995:10).

Unfortunately the increase in types, numbers and use of drugs has not been accompanied by an adequate increase in the public's knowledge of these substances. Most people in using drugs, go through life with very little understanding of the powerful substances they use for recreational and palliative purposes. The media, as well as professionals in the field, often do not adequately contribute to the public's information and have sometimes added to the public's confusion. Drug educators and treatment specialists must be very careful in learning about the different drugs and the unique effects of each drug. As an article investigating the media response to Ecstasy (MDMA) concluded: "We must take a vested interest in critically evaluating stories on the benefits and dangers of this drug. And we should be much less forgiving than we were with LSD when we identify factual errors, distortions and oversights. We also need policy decisions that do not inhibit research, but instead further general understanding of substances that can alternately be viewed as fascinating or frightening..." (Riedlinger in Beck & Morgan 1986:299).

In this research, an effort was made to lend prominence to recreational Ecstasy (MDMA) use in the period of late adolescence including school going adolescents and university and Technikon students. The researcher is hopeful that the present study will render a contribution to the benefit of its area of inquiry and will create an awareness amongst educators, namely parents, teachers, guidance counsellors and psychologists, of the " 'E' in Rave." Nevertheless, mere awareness and identification of Ecstasy use will be meaningless activities unless they lead to prevention and assistance. (*See list of relevant contact numbers*).

It is fitting therefore, to conclude this work with the words of Roger Waters (in Granquist 1992:02):

"And then the alien anthropologists - Admitted they were still perplexed -
But on eliminating every other reason - For our sad demise -
They logged the only explanation left - This species has amused itself to death."

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NORTHWEST PROVINCE

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5. Tygerberg alcohol & Drug Centre (*Stikland*) Tel: (021) - 919 9557/8
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NORTHERN CAPE

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GLOSSARY OF ABBREVIATIONS USED

1. *ASCS* - adolescent self concept scale
2. *AVP* - arginine vasopresin; formerly an antidiuretic hormone
3. *CSF* - cerebrospinal fluid
4. *2CB* - dimethoxy - bromo- penthylamine
5. *DA* - dopamine neurotransmitter
6. *DEA* - drug enforcement agency
7. *DIC* - disseminated intravascular coagulation; a blood clotting disorder
8. *DSM-IV* - diagnostic and statistical manual of mental disorders (fourth edition)
9. *EEG* - electroencephalogram
10. *FDA* - food and drug administration (American)
11. *GABA* - gamma- aminobutyric acid
12. *5-HIAA* - hydroxyindoleacetic acid; breakdown product of serotonin in spinal fluid
13. *5-HT* - hydroxytryptamine; serotonin
14. *ICD-10* - tenth international classification of mental and behavioural disorders
15. *LSD* - lysergic acid diethylamide
16. *MAO* - monoamine oxidase

17. *MDA* - methylenedioxyamphetamine
18. *MBDB* - methylbenzodioxylbutanamine
19. *MDEA* - methylenedioxyethylamphetamine
20. *MDMA* - methylenedioxymethamphetamine; Ecstasy
21. *MMDA* - methoxymethyldioxyamphetamine
22. *ng* - nanogram; one millionth of a gram
23. *NIDA* - national institute of drug abuse
24. *PBS* - Pandora's box syndrome
25. *PET* - positron emission tomography scans
26. *16PF* - sixteen personality factor
27. *PLUR* - peace, love, unity and respect; Rave ideals
28. *PTSD* - post traumatic stress disorder
29. *REM* - rapid eye movement
30. *SSRI* - selective serotonin reuptake inhibitors
31. *SWS* - slow wave sleep
32. *TPH* - tryptophan hydroxylase
33. *VS* - values scales

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APPENDIX I

ECSTASY, SORTED AND ON ONE

I held the white small tablet in my hand. I don't know what I had really expected, something bigger perhaps.

"Are you sure, I mean to say, it looks like a Panado to me?"

"Nah, its about right," Tony confidently replied.

"Hope so," I said with adventurous expectation ...

"Come on," said Tony, "let's do this proper, I'll get some water to down them with, it takes about half an hour, you know."...

Armed with our bottles of still, designer mineral water we made our way to a balcony overlooking the main dance floor. There seemed to be as many people there as down below, most of them already drenched in sweat and dancing. I didn't want to sit down or just stand around, I needed to be part of what was going on ...

"Look , I know you don't need any encouragement," Tony shouted , "it happens quicker if you dance it in."

"You what?" I shouted hardly having heard what Tony had said. He repeated himselfstressing that an invigorated circulation assisted the flow of the chemical in the blood stream.

Maybe, but I had not even swallowed it yet. No point in hanging around though, here goes, I thought, five minutes past midnight, welcome to a glamorous new experience. I put the whole tablet in my mouth, bit it in half and immediately caught an incredibly bitter explosion on my tongue, I instinctively took a mouthful of water and swallowed down. Tony saw me grimace and laughed, "Don't worry they're meant to be like that...you've got to experience everything it's got to offer including the taste!"

Tony downed his pill and we both started dancing furiously. The adrenaline buzz was amazing, every minute I tried to dance faster desperately trying to detect the first noticeable sign that something was working. Everyone around us was caught up in the music but at the same time there was a great feeling that everyone knew everyone, what I mean is that everyone was smiling and welcoming. I smiled back at everyone, we all cheered together,

danced as one, lifted our arms together, we were all friends together. Outside of the club we might have had nothing in common but in there it was pretty obvious straight away that we had a common purpose, to enjoy ourselves and celebrate the incredible music. After about fifteen minutes I told Tony that I thought it was kicking in. "No," he said, "not yet, you'll really know when it does"...

I reluctantly followed him and we tried to make our way through the frenzied main dance floor, there were people just everywhere dancing fierce and furiously, smiling radiantly and having the time of their lives. I carelessly bumped into a ladhe turned around, smiled at me and mouthed in a friendly manner words to the effect, "Alright mate?" I smiled back, he shook my hand and said, "have a nice one" as I went passed him. It was becoming obvious that everyone was here to enjoy themselves and there was nothing that was going to spoil that...

We decided to go to the toilets to fill up our already depleted water bottles, agreeing that neither of us was going to payfor half a litre of water ... We waited for what seemed an age in the crowded but well ordered toilets. Everyone seemed to have the same idea, they were all filling up their water bottles, washing their faces and some of them were pouring bottles of water over their heads. The urinals were all but deserted but there was a huge queue for the cubicles. When eventually one of these opened, two lads came out and another two disappeared in. I just looked at Tony with a bemused look. Tony grinned and explained.

"No, it's not like that, not that there is anything wrong with that, it's not really that type of place, they're just going in to get sorted or to do billy or charlie."

"What?" I quietly enquired trying not to be overheard or to sound too uncool. Tony explained they were either dealing or sniffing amphetamines or cocaine...

I wanted to talk to Tony but no a wave of nausea swept across me, I didn't feel in control any more, I wanted to get off and felt the room spin just like when I'd had too much to drink. What had I let myself in for? I didn't like it and there was nothing I could do about it. "Keep in control, keep in control," I kept repeating to myself as I stood trying not to draw attention to my agony. I'd thought there was nothing that could possibly go wrong and there I was on my first pill and completely out of my depth, I wish that I had not been so stupid, what the hell

was I doing playing around with drugs. Somehow I managed to ride the cerebral ferris wheel and stay on, Tony put his hand on my shoulder and said, "It'll be alright, it happens to some people but these are really strong though, perhaps we should have just started off with a half."

Before he had finished talking the ride was over and I felt a huge wave of euphoria coming over me. It was alright. I felt alright, well a lot more than alright, I couldn't express just how alright I felt, I just put my arm around Tony and told him how wonderful I thought he was. He reassuringly patted me back and said, "Welcome to planet E !"

Planet E, planet E, planet E, if this is what planet E is like, well I think I'll stay here, I thought! It seemed so right, so much fun. I couldn't remember feeling so relaxed and so happy about everything, everything seemed right and okay.

Tony had a huge grin on his face, he leant across and said, "It's brilliant, just brilliant isn't it! Before we go back dancing though, I know that at the moment you feel that there don't have to be any rules about anything because everything is alright but these are the rules. I should have told you earlier but I think you know most of them anyway. The first is to enjoy yourself. The second is to drink lots of water and the third is to take regular breaks when I tell you to"...

I heard everything he said, I heard it all so clearly whereas before I'd come up on this stuff it was a struggle to hear anything above the beautiful music. Now everything looked and sounded clearer. I took it all in and agreed if he said there had to be rules, well rules there were. Everything was starting to go faster and and get better, "I've got to go and dance," I shouted ...

There were people dancing everywhere. In the corridors, by the toilets, by the bars and literally on the tables and chairs. Everyone was weaving to the beat that pounded at 130-140 beats per minute. Occassionally the music would stop or slow for five or ten seconds and we were all bathed in a sweeping white light which everyone saluted religiously with their hands in the air, palms outstretched....

There was no doubt whatsoever, I was having a brilliant time. An absolutely brilliant time. I hadn't felt like this before... it was hard to describe...better than scoring that important goal, going out with that special girl. The throbbing beats mesmerised and entranced me. Everyone was my friend and my ego was something which I had happily left at home. There was a young lad dancing furiously in front of me, probably sixteen... he's got huge, big, black pupils which seem to have outgrown his corneashe smiles at me, I smile back and it's as if we've been friends for life, as we both acknowledge through our dancing exactly how wonderful the feeling is.

Tony dragged me off the dance floor after about two minutes, well it seemed about two minutes but I checked my watch and it was one forty already. We must have been dancing for well over an hour. I was soaking wet and my teeth would not stop grinding .

“Have one of these,” Tony passed me a chewing gum, “it'll help your jaws.”

We sat down on a slightly raised wall with our feet off the floor. Within a few seconds we were swaying our feet in rhythm with the music. All of my senses of perception were dramatically increased. Everything that caught my attention was the source of an overly inquisitive fascination. I found myself talking about literally everything that came flooding into my head. I probably sounded like a racing commentator but I recognised a child like innocence come flooding back as my barriers dropped and I had an overriding urge to tell the truth about absolutely everything. It was truly amazing and I felt a cleansing tide, as wave after wave of euphoria swept over me. “Thanks mate,” I said, trying hard to elaborate on my understatement, “this is the best fun I have had in ages”...

We filled our water bottles again. I looked at myself in the mirrors and I thought that I looked about ten years younger. Not only did I feel seventeen again I was convinced that I looked it, my skin was radiant and healthy, my eyes were huge...We danced for another two or three hours gradually I noticed that the effect was wearing off, and that the once heaving dance floor was now more sparsely populated... the music was getting distinctively mellower. Warm and orange is how I think I described it

We decided to leave just after five o'clock... Outside, I'd never seen anywhere so busy at five o'clock. There were people, cars and taxis all over the place. Everybody looked jaded and

drained. Girls... shivered in the crisp morning sun. There was a general air of calm presiding over the sea of sodden shirts and drowned haircuts as groups sat around against the walls chatting, smoking and taking in the early morning breeze which intermittently smelt of cannabis....

Source :

Atkins, A.D. (1995). Ecstasy, Sorted and On One. Ipswitch Book Company: Great Britain, pg 9-17.










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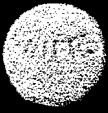






Test results October/ November





These samples were bought in various countries, mainly Britain and Germany.

The measurement used here for MDMA content refers to the base. The same content about 20% higher if the hydrochloride is measured (as is done by some other laborato

*These pills came in different colours but with nearly the same quantity of the same in quantity listed applies to the first colour mentioned.

	Name	thickness	diameter	weight	active ingredients
	Dove	3.0mm	9.2mm	265mg	MDEA 31mg MDMA 42mg
	Lips*	5.5mm	8.2mm	288mg	MDMA 59mg
	Playboy*	3.2mm	9.1mm	288mg	27mg amphetamine + trace of caffiene
	Twins	4.8mm	9.2mm	320mg	76mg MDMA
	Adidas	5.1mm	8.7mm	384mg	9mg amphetamine + trace caffiene
	Thunderdome	5.2mm	7.8mm long	500mg	MDMA 64mg
	Triangle	2.6mm	10.2x4.1mm	303mg	MDEA 98-107mg

	Number 1	4.8mm	8.2mm	284mg	MDMA 56mg
	Mercedes	5.2mm	8.6mm	400mg	12mg amphetamine + trace caffiene
	Pound	3.2mm	10.1mm	304mg	MBDB 80mg
	Star*	5.3mm	8.7mm	400mg	11mg amphetamine + trace caffiene
	Killers	4.3mm	9.1mm	348mg	MBDB 136mg + trace caffiene
	Clover	4.8mm	7x6mm	235mg	MDMA 60mg + MDEA 19mg
	Sunshine	4.6mm	9.1mm	365mg	MDEA 129mg
	Micro	1.8mm	3.8mm	not known	LSD
	Euro	2.8mm	9.2mm	204mg	MDMA 57mg
	Dolphin	3.6mm	9.2mm	247mg	MDEA 26mg + MDMA 5mg
	Pyramid	4.6mm	10.1mm	462mg	Neo-Cibalgin A Swiss cold remedy, believed to be harmless

	CD	4.0mm	8.1mm	266mg	9mg amphetamine + trace caffeine
	Apple	3.7mm	9.2mm	287mg	MDMA 42mg + trace caffeine
	Email	4.5mm	8.5mm	220mg	MDMA 71mg
	One Two Five	2.6mm	9.1mm	198mg	MDMA 41mg

Energy (no photo)

White pill with "e" logo plus dot in centre, 3.1x8mm, 177mg, contains ephedrin and ke

"120mgMDMA" (no photo)

A plain white pill sold as 120mg of MDMA was damaged in transit, contained MDMA, it was not measured.

If you can offer other types of pills for testing, please let me know. First check it included here or in the list of pills being tested now

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APPENDIX III

VALUES SCALES

- A1. Ability utilization
- A2. Achievement
- A3. Advancement
- A4. Aesthetics
- A5. Altruism
- A6. Authority
- A7. Autonomy
- C1. Creativity
- C2. Cultural identity
- E1. Economic rewards
- E2. Economic security
- L. Own lifestyle
- P1. Personal development
- P2. Physical activities
- P3. Physical prowess
- P4. Prestige
- R. Risk
- S1. Social interaction
- S2. Social relationships
- S3. Spirituality
- V. Variety
- W. Agreeable working conditions

APPENDIX IV

A SENSE OF PERSONAL IDENTITY

IDENTITY FORMATION VERSUS ROLE CONFUSION

This part of the test can be taken by indicating how often each of these statements apply to you, using the following four point scale:

1 = Never applies to me

2 = Only occasionally or seldom ever applies to me

3 = Fairly often applies to me

4 = Very often applies to me

- | | | |
|-----|--|--------------|
| 1. | I wonder what sort of person I really am. | [1][2][3][4] |
| 2. | People seem to change their opinion of me. | [1][2][3][4] |
| 3. | I feel certain about what I should do with my life. | [1][2][3][4] |
| 4. | I feel uncertain as to whether something is morally right or wrong. | [1][2][3][4] |
| 5. | Most people seem to agree about what sort of person I am. | [1][2][3][4] |
| 6. | I feel my way of life suits me. | [1][2][3][4] |
| 7. | My worth is recognised by others. | [1][2][3][4] |
| 8. | I feel freer to be my real self when I am away from those who know me very well. | [1][2][3][4] |
| 9. | I feel that what I am doing in life is not really worthwhile. | [1][2][3][4] |
| 10. | I feel I fit in well in the community which I live. | [1][2][3][4] |
| 11. | I feel proud to be the sort of person I am. | [1][2][3][4] |
| 12. | People seem to see me very differently from the way I see myself. | [1][2][3][4] |
| 13. | I feel left out. | [1][2][3][4] |
| 14. | People seem to disapprove of me. | [1][2][3][4] |
| 15. | I change my ideas about what I want from life. | [1][2][3][4] |
| 16. | I am unsure as to how people feel about me. | [1][2][3][4] |
| 17. | My feelings about myself change. | [1][2][3][4] |
| 18. | I feel I am putting on an act or doing something for effect. | [1][2][3][4] |
| 19. | I feel proud to be a member of the society in which I live. | [1][2][3][4] |

APPENDIX V

QUESTIONNAIRE
Recreational Ecstasy Use

Age:

Marital status: Single / Married

Sex: Male / Female

Race: White / Indian / Coloured / Black / Other

Occupation: Professional / Employed / Unemployed/ Student / Scholar

If employed, please state what you do

.....

Instructions: Please answer the following questions as honestly as possible by filling in your answer on the dotted line or ticking the item that applies to you. Where more than one item applies to you, mark the ones that "best" apply to you and your experiences with the drug. Remember, you can mark more than one alternative. If the option "Other" is chosen please state whatever your experience is on the dotted line. Only answer the sections that pertain to you.

SECTION A

(To be completed by all subjects)

1. How old were you when you tried Ecstasy for the first time?

2. What were your reasons for trying Ecstasy?
 - (a) Peer pressure: All my friends do
 - (b) Sociability: Relax with friends
 - (c) Negative life circumstances: Escape from problems
 - (d) Pleasure and enjoyment: For fun; the buzz
 - (e) Experimentation: To see what it was all about
 - (f) Anti-alcohol: Better than drinking
 - (g) Don't know: Never thought about it
 - (h) Risk: Because it is illegal
 - (i) Searching for meaning in life: Feeling of being spiritually empty
 - (j) Poor self esteem: Not feeling good about yourself
 - (k) Other

-
3. How were you introduced to the drug?
- (a) Offered it by a friend
 - (b) Offered it by a family member- brother/ sister/ cousin
 - (c) Offered it by a drug dealer
 - (d) Other
-

4. Where do / did you take Ecstasy?
- (a) Nightclubs
 - (b) Raves
 - (c) Private parties
 - (d) At home
 - (e) In nature
 - (f) Other
-

5. When do / did you take Ecstasy?
- (a) In the day
 - (b) In the late evening
 - (c) On weekends
 - (d) If I don't have to work the next day
 - (e) If I don't have to study the next day
 - (f) If I don't have to go to school the next day

6. Who do / did you take Ecstasy with?
- (a) Alone
 - (b) With a small group of friends (2- 4 others)
 - (c) With a large group of friends (5 or more)
 - (d) With one other person
 - (e) With a group of strangers
(people you just met and barely know)

7. How do / did you take Ecstasy?

- (a) Tablet / pill form
 - (b) Capsule form
 - (c) Powdered form
 - (d) Orally (by mouth)
 - (e) Snorting
 - (f) Injecting
 - (g) Suppository
 - (h) Other
-

8. (i). How many pills do / did you usually take per night/ occasion?

- (a) Less than half
- (b) Half
- (c) One pill
- (d) Two pills
- (e) Three pills
- (f) More than three pills (state the number of pills)
- (g) Other

(ii). If you take capsules, how many do you usually take per occasion?

9. How long do / did the effects of one dose last ?

- (a) Two hours
- (b) Six hours
- (c) Eight hours
- (d) Ten hours
- (e) Twelve hours
- (f) Other

10. What effects of Ecstasy did you experience?

- (a) Euphoria - "rush"

- (b) Enhanced sensory and auditory perception - everything looks and sounds crystal clear; heightened sense of touch
- (c) Positive mood - overall sense of well being
- (d) Intimacy - closeness to others
- (e) Increased communication - talkativeness
- (f) Heightened sensuality - feeling sexy /attractive
- (g) Increased energy level
- (h) Hot/ cold flushes
- (i) Flickering/ rolling of the eyes
- (j) Jaw clenching / grinding of teeth
- (k) Dehydration
- (l) Nausea
- (m) Vomiting
- (n) Elevated heart rate
- (o) Visual hallucinations- seeing things that are not really there
- (o) Anxiety - panic attack
- (p) Paranoia - increased self consciousness
- (q) Muscle stiffness
- (r) Feeling of heavy legs or "no legs"
- (s) Loss of appetite
- (t) Greater self insight (emotional)
- (u) Spiritual awareness
- (v) Sleeplessness
- (w) Desire to urinate
- (x) Other

11. What do / did you like best about Ecstasy?

- (a) Positive mood state - happiness
- (b) Activation - energy
- (c) Intimacy - closeness to others
- (d) Greater self insight (emotional)
- (e) Enlightenment (spiritual)- sense of unity with all

- (f) Communication / talkativeness
- (g) Other
-

12. What do / did you dislike about Ecstasy?

- (a) Nothing
- (b)(i) The side effects (while on Ecstasy)
- (ii) If so, which side effects?
-
-
- (c) The come down
- (d) The price
- (e)(i) The after effects (when off Ecstasy)
- (ii) If so, which after effects?
-
-
- (f) Other
-

13. Why do you go to Raves?

- (a) For the drugs
- (b) To be in with the crowd /to be trendy
- (c) To escape problems/ reality
- (d) Stress release
- (e) For the music and visual effects
- (f) To dance
- (g) Other
-

14. What do Raves mean to you?

- (a) Acceptance
- (b) PLUR (peace; love; unity; respect)
- (c) A shared / collective experience

- (d) Belonging
- (e) Spirituality
- (f) Party
- (g) Other

15. Do you think you could go out/ or go to a Rave or a nightclub and have fun without taking Ecstasy? Yes/ No

If not, why not?

.....

.....

16. What type of people do you think are more likely to take Ecstasy?

- (a) Drop outs
- (b) Fun-loving
- (c) Reasonably educated
- (d) Normal
- (e) Yuppie
- (f) Gay (homosexuals/ lesbians)
- (g) Experimenters
- (h) Sensation seekers
- (i) Socially active
- (j) 'Night clubbers'/ dance party people/ ravers
- (k) Spiritual seekers (both spiritual and personal insight)
- (l) All types (from all walks of life)

17. What words would you associate with Ecstasy?

.....

.....

.....

SECTION B

(To be completed by 1-3 time users only)

- 18 (i). If you have used Ecstasy only once, would you do it again? Yes / No
- (ii). If yes, why?
- (a) It is fun
 - (b) I like the way it made me feel
 - (c) I lose all my inhibitions
 - (d) Other
- (iii). If not, why not?
- (b) Financial reasons- too expensive
 - (c) Am cautious regarding Ecstasy's effects
 - (d) It did not live up to my expectations/ is over rated
 - (e) It affected me negatively / was unpleasant
 - (f) Not worth the money
 - (g) It was boring
 - (h) Other
- (iv). When was the last time you took Ecstasy?

SECTION C

(To be completed only by multiple time users.)

19. Has your frequency of use changed since you first tried Ecstasy?
- (a) No change
 - (b) Increased
 - (c) Decreased following an initial increase
 - (d) Other
20. (i) Do you wait until the effects of the first dose (pill) have worn off before taking the second dose? Yes / No
- (ii) Does waiting prolong the experience? Yes / No

21. How would you describe successive doses?

- (a) Less intense
- (b) More intense
- (c) Shorter lasting
- (d) Longer lasting
- (e) Reduced pleasurable effects
- (f) Enhanced pleasurable effects
- (g) Increased side effects
- (h) Decreased side effects
- (i) Other
-

22. (i) What is / was your highest consumption rate?

- (a) Every day
- (b) Every few days
- (c) Once a week
- (d) Once every two weeks
- (e) Once a month
- (f) Once every 3 months
- (g) Once every 6 months
- (h) Less often
- (i) On special occasions
- (j) It varies

Explain what you mean

.....

(ii) What is your present consumption rate?

If you are no longer using, what was your consumption rate before you stopped taking Ecstasy?

- (a) Every day
- (b) Every few days
- (c) Once a week

- (d) Once every two weeks
- (e) Once a month
- (f) Once every 3 months
- (g) Once every 6 months
- (h) Less often
- (i) On special occasions
- (j) It varies

Explain what you mean

.....

23. Have/ had you noticed any variations in the effects of Ecstasy over time? Yes / No
 If yes, how so?

- (a) (i) Worse side effects
- (ii) Please explain
-
-

- (b) (i) Reduced pleasurable effects
- (ii) Please explain
-

(c) Other

.....

24. Do you feel you need to take more to produce the same effect? Yes / No
 If yes, why?

- (a) Tolerance/ adaptation to effects of Ecstasy
- (b) Decrease in quality/ purity of Ecstasy
- (c) Addiction

25. What other factors do you feel can influence the way in which Ecstasy is experienced?

- (a) Who you are with at the time
- (b) Consumption of other substances
- (c) Your state of health
- (d) Using it too often

- (e) Where you are taking it
- (f) Your mood
- (g) Other

26. What is the maximum dose you have ever taken?

27. Did you notice any difference in effects when taking large doses? Yes / No

If yes, what did you notice?

- (a) Hallucinations - seeing things that are not really there
- (b) Panic attacks / anxiety
- (c) Longer lasting and more intense experience
- (d) Loss of control
- (e) Stronger rush
- (f) Paranoia- increased self consciousness
- (g) Nausea
- (h) Vomiting
- (h) Rolling back of eyes
- (i) Jaw clenching
- (j) Feeling jittery -nervousness
- (k) Muddled thought
- (l) Unpredictable mood
- (m) Erratic behaviour
- (l) Other

28. (i). Have you heard of or read about any dangers/ risks involved in using Ecstasy?

Yes / No

If yes, which of the following potential dangers/risks do you know of?

- (a) Cognitive deficits (memory impairment; concentration)
- (b) Neurotoxicity (brain damage)
- (c) Death
- (d) Dehydration

- (e) Depression (emotional problems)
- (f) Reduction of serotonin in the brain (change in brain chemistry)
- (g) Sleep disturbances
- (h) Neuropsychiatric disturbances (mental health)
- (i) Unknown composition of pills (What you are taking as Ecstasy may not be Ecstasy)
- (j) Risks to general physical health
- (k) Lack of research and facts regarding possible long term effects and dangerous side effects
- (l) Possible dependence or addiction
- (m) Other

(ii) What do you see as the most dangerous risk?

.....

29. Have you had any bad experiences whilst on Ecstasy? Yes / No

If yes, how much Ecstasy did you take?

Can you remember the name of the pill?

Which bad experiences did you have?

- (a) Panic attacks/ anxiety
- (b) Hallucinations- seeing things that are not really there
- (c) Paranoia- increased self consciousness
- (d) Loss of control
- (e) (i) Indulged in undesirable behaviours
- (ii) Please specify
-
- (f) Other
-

30. Do / did you use any other substances in combination with Ecstasy? Yes / No

If yes, which other substance(s) do / did you use?

- (a) Alcohol

- (b) Cannabis (marijuana)
- (c) Cocaine
- (d) Speed
- (e) LSD (acid)
- (f) Amyl nitrate (poppers)
- (g) Other

31. What are the effects of combining Ecstasy with other substances?

.....

.....

.....

32. What other drugs, if any, have you tried/ experimented with?

- (a) Marijuana
- (b) Speed
- (c) Cocaine
- (d) LSD
- (e) Ketamine
- (f) Heroin
- (g) Poppers
- (g) Other

33. On a scale of 0-10, how hard a drug would you rate Ecstasy where marijuana is rated as 2 and heroin as 10?

34. Has Ecstasy influenced your life in any way? Yes / No

If yes, how?

- (a) Negatively
- (b) Positively
- (c) Improved relationships or social interactions
- (d) Gained self insight

- (e) Enriched personal growth
- (f) More fatigue
- (g) Am generally 'run down'
- (h) More prone to colds
- (i) Lowered immune response to infection
- (j) Depression
- (k) Other

35. Do / did you think your Ecstasy use is / was becoming problematic? Yes / No

If yes, have you sought any professional help? Yes / No

If not, why not?

36. How would you describe dependent?

(a) You can't enjoy yourself without it

(b) You need it to cope every day

37. Do you think you could become dependent on Ecstasy? Yes / No

Do you think others could become dependent on Ecstasy? Yes / No

If yes, how so?

(a) Physically

(b) Psychologically

38. How would you describe being addicted to Ecstasy?

(a) Physically craving the drug

(b) Inability to control its use

(c) Other

39. Do you think you can become addicted to Ecstasy? Yes / No

SECTION D

(To be completed only if you were a regular user but are no longer taking Ecstasy)

40. (i). What are your reasons for stopping Ecstasy use?
- (a) Got married / am in a secure relationship
 - (b) It became boring/ lost its appeal
 - (c) Became aware of the dangers involved/ health reasons
 - (e) It ended up being too expensive/ financial reasons
 - (f) Decided not to do drugs anymore
 - (g) Became a mother / father
 - (h) I grew out of it
 - (i) Other
 -
- (ii). When last did you take Ecstasy?

SECTION E

(To be completed only if you are still using Ecstasy)

41. When was the last time you used Ecstasy?
42. Do you think your Ecstasy use will continue? Yes/ No

THANK YOU FOR PARTICIPATING IN THIS STUDY

HOME

ABOUT

CONTACT

LINKS

NEW

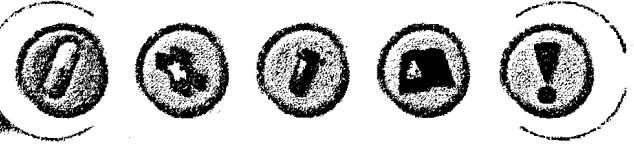


DanceSafe

Promoting health and safety within the rave and nightclub community.

Support DanceSafe

Drug Info



Ecstasy

Heat Stroke
 Contraindications
 Depression
 Neurotoxicity
 Ecstasy slide show
 Testing kits
 Lab Pill Testing
 Therapy Research

Cannabis

LSD

Speed

GHB

Alcohol

Mushrooms

2CB

Tobacco

Ketamine

Nitrous Oxide

Cocaine

Watch Out for Heat Stroke

Over 100 people have died after taking ecstasy at rave parties. Why?

When you take ecstasy (or any stimulant drug) your body temperature rises. When you take ecstasy in a hot place (like a rave) your body temperature rises even more. When you take ecstasy in a hot place and start dancing energetically, your temperature rises even more again. With body temperatures raised to these very high levels there is a risk of developing heat stroke.

When your body overheats you lose fluid. Some ravers lose pints and pints of fluid when dancing on E in hot places. At a crowded indoor rave you could lose up to 6 pints in 6 hours. These fluids must be replaced.

Don't be fooled; these cases are not ecstasy overdoses. Heatstroke can happen even if you have only taken one tab

What can you do to prevent heatstroke?

1. As a rough guide, you should be looking to drink about a *pint* of water every hour (2-4 cups). Sip water slowly rather than drinking a lot all at once, as this can be dangerous.
2. Try and eat something salty or drink juice or isotonic sport drinks like Gatorade. This will replenish your body's electrolytes and prevent hyponaetremia (water toxicity).
3. Take breaks from dancing and allow your body to cool down. Chill out areas are perfect for this.
4. Wear loose-fitting clothes and don't wear a hat. Wearing a hat keeps the heat in.
5. Encourage your local promoters to adopt our safe settings guidelines.

Warning signs of dehydration and possible heatstroke

Alcohol is absolutely useless and positively dangerous for people dancing on E. Alcohol makes you dehydrate even more!

Failure to sweat.
Cramps in the legs, arms and back.
Giddiness, dizziness, headache, fatigue
Vomiting.
Fainting or loss of consciousness.
Suddenly feeling really tired, irritable and confused.

If any of these things happen, stop dancing, drink some water and chill out immediately.

BUT DON'T DRINK TOO MUCH WATER.

There have been a few deaths reported from people drinking too much water while at a rave. This is extremely rare. However, drinking 2-4 cups an hour when dancing is about the right amount. You should also try and eat something salty (not always easy if you've taken a stimulant drug) or drink fruit juice or a sports drink like Gatorade. Remember, water is an antidote to dehydration, not ecstasy.

What if someone collapses while dancing?

1. Call an ambulance.
2. Get the person to as cool a place as possible. This might mean taking them outside.
3. Drench them with water (as cold as possible) using any means you can. Increase the cooling down process by fanning them with anything that's handy. You are looking to get the body temperature down to 102F (38.9C). Once the temperature is down to this level the person should be wrapped in a dry blanket or given some dry clothes to wear. The temperature shouldn't be allowed to fall much below 102F or other serious consequences might develop.
4. When the ambulance comes tell them what the person has taken (if you know) and that you think it is heatstroke.
5. If the person regains consciousness make them drink water with some salt in it. Gatorade or other sports drinks are ideal. At this point the person might start sweating again. This is a good sign.
6. The person should be taken to the hospital for observation and proper treatment.