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ABSTRACT

This is a report of a study on drug use and sexual behaviours of inmates, conducted in Greek prisons. Initially, the study took place at a national level and used a representative sample of 851 inmates from ten correctional institutions. The study recorded drug use and sexual behaviour of inmates and identified the correlates of these behaviours. 290 inmates (33.6%) reported injecting drugs, of whom 174 (60%)

HIV RISK BEHAVIOURS AMONGST GREEK INMATES: A
THEORETICAL PERSPECTIVE

BY

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ABSTRACT

This is a report of a study on drug use and sexual behaviours of inmates, conducted in Greek prisons. Initially, the study took place at a national level and used a representative sample of 861 inmates from ten correctional institutions. The study recorded drug use and sexual behaviour of inmates and identified the correlates of these behaviours. 290 inmates (33.6%) reported injecting drugs, of whom 174 (60%) had injected while in prison, and 146 (50.3%) had shared injecting equipment sometime while in prison. Injectors were predominately aged 25 to 34 years; they were incarcerated mostly due to drug offences and offences against property; they were characterised by a multiplicity of previous sentences and a long duration of total time in prison. Most of the injectors had been convicted for drug offences in the past. Regarding their sexual behaviour one year prior to imprisonment, injectors were more likely to have multiple casual female sexual partners. Logistic regression analysis suggested that total time in prison, previous drug conviction, being a convict and having multiple female sexual partners one year before incarceration were significant HIV risk behaviour correlates.

Then, a sample of 242 inmates from the biggest institution of Greece was investigated. Questionnaires comprised knowledge, attitudes and perceived risk/concern scales, as well as measures from the Health Belief Model, Health Locus of Control theory, Health Value and the Theory of Planned Behaviour. Inmates were highly knowledgeable on the basic facts of HIV transmission and prevention, but also had significant gaps. They generally held liberal attitudes towards AIDS-related issues. They worried about general health and AIDS and perceived themselves as at risk for getting AIDS. Inmates had engaged in high risk sexual and drug use behaviours and adopted prevention measures of limited effectiveness prior to incarceration and expected to do the same when released. The most significant predictors of inmates'

intentions to practice safe sexual behaviour and drug use behaviour when released was their behaviour prior to incarceration and social cognition beliefs, mostly derived from the HBM. Susceptibility to AIDS and intentions to avoid injecting in prison were the most significant factors predicting drug injection while in prison. Results of this study were discussed theoretically in relation to previous research on drug use in prisons. Specific suggestions are made for drug use policy in Greek prisons, in light of the results and conclusions of this study.

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PREFACE

In every piece of research there seems to exist ideological and emotional relationships between the researcher and the subjects, even if these relationships are ignored or suppressed (Navridis, 1988).

When I firstly decided to conduct research in prisons, I couldn't imagine what an adventure I was about to be involved in. It was not only because I had never entered a Greek prison before (I had only once visited a prison in Scotland, during my M.Sc. course), but also because I was thinking that this piece of research would be a relatively easy job. I had specific reasons to believe this. My supervisor was an expert in research in prisons, I had already decided on the methodology (questionnaires, and the study design), I had an easy access to the literature and I could easily get a permission to conduct the research in Greek prisons. Even the last issue (the most ambiguous) had proven to be a relatively easy job.

When my research tools were ready, I visited the prison of Corfu for the "familiarisation phase". If everything seemed OK, what was that feeling I was experiencing while entering the big black out-door of the institution? It was only later that I recognised... the fear. I had heard a lot of things about this particular prison, legends and facts. That the person who designed it committed suicide when he realised what a cruel construction he had made; that nobody had ever escaped from that prison; that my wife (who is from Corfu) used to see "those people in the cell windows" when she was a student (her school was opposite to the prison). All these thoughts followed me during my visits to this prison and they were always present when I interviewed the inmates. At that time, during the "familiarisation phase", I didn't enter the main building of the prison, as the interviews took place in the governor's office. So I couldn't realise that things could be worse for me.

Some months later, I started the main data collection phase from the Judicial prison of Korydallos, in Athens. It took me about a month to gather the data during this phase. I came back to this institution sixteen months later, for three months, during the whole second phase of the main study. Korydallos is the biggest institution in the country and the institution that attracts most media attention (due to its very famous inmates). I remember my first time I entered the main building in order to negotiate with the chief officer my presence there. I was asked to register in the guest's book, I gave my identity card to be kept for all the time I was present there and I had to accept the guards, who looked at me as if saying "who is this crazy scientist? (I was neither a doctor, nor a prisoner, nor a member of the staff). What is he doing here? What is this research?" Then they offered me a small room to conduct the research and...left me alone. This procedure was always the same and repeated every time I visited this institution. Even the very last day of the second phase (when I had already been there hundreds of days), they again asked me to register in the guest's book, and give my identity card. Additionally, during all that period I had to follow strictly the rules of the institution. I could not move beyond the small room provided, I could not talk to other inmates who moved around in the area and I had to sit in the room when an entrance of a new inmate or a departure of inmate took place (in this case, the research was being interrupted). Even if I wanted to go to the toilette, I had to wait until suitable conditions met (the guard being available to open the gate and allow me to walk towards the toilette).

I selected randomly the inmates (according to cell distribution in the building) and started inviting them. In order that the inmates knew how, when and where to come, I had to call them (by their names) through a megaphone. That meant that in the first place I had to see the names of all inmates listed in the "cell book". I recognised a lot of names. People whom I had seen on the T.V. or I had read about their crimes in the press. At such times I felt a strong need to call such inmates, although he may not have been included in

the selection procedure. It was in these moments that my objectivity as a researcher was potentially compromised. I resisted. But I recognised this potential bias and - most importantly - admit it now.

When inmates came to the place where I was conducting the study, I asked them to sit, I told them who I was and what I wanted from them. I could easily recognise their feelings: First, surprise mixed with wonder ("who is he and what does he want from me?"). Then concentration, listening to me asking numerous questions. Then...either a warm willingness to participate (what happiness for the researcher!) or, on a very few occasions, a sudden, sometimes angry denial and departure from the place saying: "I thought it was something important! (What a disappointment and frustration for the researcher!). Following such an occasion, I remember myself lowering my voice when I gave instructions to the next inmate and trying to be more focused.

When a famous inmate came, I remember myself being "an objective researcher" and "a TV watcher" at the same time. This became more obvious when I visited the closed prison of Tripolis, where inmates who had committed sexual crimes were kept. I remember myself trying to be objective (does this mean without feeling?) to a very "famous" inmate who some weeks ago had raped and killed his five year old son, but in front of me he was very polite and found my research interesting. I feel the need to mention another dimension of publicity here. A lot of my friends and relatives knew about my research in prisons. They used to ask me (even now they do so) on many occasions if I had met a "famous" prisoner and if he had "talked" to me (about his crime or about the issues that I was researching?). I sometimes felt angry with them, as I thought that they were not interested in my work, but in a gossip, instead.

During the course of the study, there was an increase in the number of inmates incarcerated, resulting in overcrowding. This in turn resulted in considerable unrest and in some cases rioting in a number of institutions. By a strange piece of luck the rioting usually

happened in institutions that I had previously visited for the research. This made me think that I was the person who caused the rioting! But this situation had also an implication for the methodology. In one institution – in Larisa – the governor could not guarantee my safety, so the questionnaires were distributed by the social workers of the institution. The fact was that I had to accept a methodological bias and I did this with some pleasure.

I spent a lot of time in prisons. While I was in, I saw the outside world from behind bars. I didn't appreciate this perspective until I had experienced it. At the beginning it was the feeling that could be described as a knot in the stomach. I often felt this just before entering the institutions. As a psychological defence, I was thinking that I would be in prison temporarily and that after a few hours, "I will be free again". But this couldn't prevent the real feeling, the one that followed. Being behind bars for so long a period (especially during the second phase) I started feeling depressed, I could not enjoy the fun of life, I could not invest in playing with my son (who had been born one year before), I could not enjoy the weekends. This lasted for a long period after the data collection phase. I needed to repress it, and then I needed to talk with my wife (who is a psychologist) about it. I think I have left this feeling behind me, but it will remain an unforgettable experience.

I had thoughts such as "how do prisoners feel, realising that they are going to stay behind bars for such a long period?" And I realised that I had started feeling sympathy for these people. I started perceiving them as "one of us", as "normal", even inmates who had committed the worst crimes. Additionally, viewing the living conditions in some prisons strengthened this perception of the inmates. I had definitely concluded that whatever they had done, they didn't deserve such a treatment. The fact was that I couldn't distinguish whether I had become a part of the prison life, or prison life had invaded my personal (outside) life. What I could definitely say was that my perception of crime and of those who commit it had changed completely, after this research.

Chapter 1 Study Main Section

Almost all inmates I met expressed their need to talk to me, not only to participate in the study. Although this was beyond the objectives of this study and beyond my role in the prison, I perceived this need so strong that I gave many of them the opportunity to talk. They talked mostly about their crimes and the penalties they had received. They stressed the injustice of the penal system and of course they complained about their living conditions. Some of them gave me letters, where they had written their views and complaints and one gave me a sealed enveloped for Professor Agrafiotis (he had seen this name on the covering letter of the questionnaire). Some asked me for money. I have to say that I experienced a big conflict being in this situation. On the one hand, I realised that my role as a researcher did not allow me to move beyond the scope of the study I was conducting. On the other hand, as a psychologist and a human being, I could understand the need of these people to communicate with a person who (it seemed) they trusted. Additionally I felt that I was receiving a burden, which I couldn't raise or I did not want to do so. It was during these moments that I felt uncomfortable (at least) or guilt (in some cases) and I didn't know what to do.

All the above constitute the background of this research. This is information that none of the tools I used ever recorded, or no statistical method is going to ever analyse. This is "lost information", according to the methodology and the scope of this particular research. Nevertheless I am sure that such information definitely constitute a significant part of this research, they it belongs to the material of this research and - in some cases - it affected the course (and probably, the results?) of this research.

I didn't know what to do with such information. Some days ago I discussed with an ethnologist and an anthropologist – both colleagues in the Department where I work – and they invited me to write about this experience somewhere in the text of my Ph.D. I thought that here is the right place. In any case I feel relieved that I can make this material available to all readers of my Ph.D.

Chapter 1: Greek Prison Service

1.1 Historical Perspective

Towards the end of the 18th century prisons appear in Europe, having a strictly penal task, following the disappearance of exile and banishment. During the 19th century, the convicted person's restriction of freedom was established as a major penalty, while at the same time it crystallised (both theoretically and in written Law) the idea that the task of prisons was only the improvement (correction) of inmates (Kalogeratos, 1994). It is easily understandable that this idea included the notion of inmates' behaviour change, in order these people might re-enter the society, and in so doing achieve the broader target – social cohesion. Thus prisons, together with psychiatric hospitals and the army became a mechanism of a "secondary socialisation" (Kalogeratos, 1994). Following this rationale, the Article 1 of the Greek Law 1861/1989 states that "the aim of imposition of penalties that deprive freedom" is "the upbringing of the inmates and their social re-entering" and that "their treatment should target the achievement of this aim".

Prison, as an institution, tried to bring together the most contradictory aims: on the one hand, to protect society from "criminals"; on the other hand, to change convicts behaviour in order they re-enter society. Furthermore, on the one hand, to be always in order and function safely; on the other hand, to develop inmates' personal responsibility, and to offer humane living conditions (Tsilimingaki, 1994). Nevertheless, there has been a great deal of criticism, mostly by people who work in the penal system or those who are near to it, regarding the degree that prison is able to achieve these aims. Ex-prisoners talk about the inhumane living conditions, staff operates without appropriate training, social services are minimal in relation to the number of inmates, plus regimes may be restrictive and authoritarian. All these conditions have

contributed to serious uprisings of inmates throughout the western world. Some examples are the uprising in JEGEL prison of W. Berlin in 1969, in SANTA FU prison in Hamburg, in 1971 and the uprising in ATTICA prisons in the USA in 1972 and 1985. In Greece, since 1979, there have been a lot of uprisings in different institutions. For example, in the rural prison of Tiryntha in 1981; in the Closed prisons of Volos, Trikala and Corfu in 1981; in Corfu again in 1987; and in the female prison of Korydallos, in 1989. The latest and the most violent uprising (two inmates were killed) took place in Korydallos prison on November 1995 and expanded to 5 more prisons across the whole country. In all these uprisings, inmates protested mostly about the inhumane living conditions and the strict penalties applied to them for their offences.

Additionally, numerous international studies on the effectiveness of penal systems and the data on recidivism have confirmed the lay experience that prison in the 200 years or so of existence, have failed both in terms of the improvement of the "criminals" and their social rehabilitation (Papadopoulou, 1994).

Social research in Greek prisons started in the 1970's. In 1975 researchers from the National Centre for Social Research (NCSR) started designing a large-scale national survey titled "The institution of prison in Greece". In 1978 the Ministry of Justice revoked permission to enter prisons and the study was interrupted. Permission was granted again in 1982 and the study started again. Its basic assumption was that prison as a place of social rejection excludes *a priori* the possibility to function as a means of social re-integration (Papadopoulou, 1994). This was actually the first study conducted in Greek prisons. It was mostly of sociological orientation and it recorded aspects and characteristics of Greek correctional institutions, the living conditions in prison, inmates' perceptions of prisons and penalties, values and roles within prisons, inmates' perception of their future. All these issues were seen in the broader perspective of how well the Greek correctional and penal system works. The results of that study have been published (NCSR, 1988) and - although not very up to date - are

considered a classical perspective of the Greek correctional system. I realised in my research in 1995 that some things still remained the same twenty years later.

A broad group of studies in Greek prisons have been conducted in the area of Criminology. Results of these studies can be found published either in scientific volumes (i.e. Daskalaki *et al.*, 2000) or the local press. For example, in 1995-1996 University of Athens conducted research among female prisoners, aiming to record the profile of female inmates, to assess aspects of feminine criminality and to look at the causes of overcrowding in a female institution (Newspaper "TO VIMA" {"The Step"}, 2000).

Another group of studies, mostly related to drug use, addressed prison-related issues only indirectly (Papaevangelou *et al.*, 1991; Kokkevi, *et al.*, 1992; 1993). These studies investigated drug-related issues and used mainly drug users in the community and small samples of inmates or ex-inmate IDUs. These studies had a primarily epidemiological orientation, and did not investigate prison as a factor associating with drug use.

Only in the 1990's did Greek research incorporate inmates as primary research participants (Malliori, 1994; 1998a; 1998b). These studies were mainly epidemiological and took place in the era of heightened HIV/AIDS concern. They did not have any psychological perspective, nor were they explanatory in nature. Nevertheless, they gave for a first time an epidemiological profile of prisons in relation to blood born viruses.

Two closing remarks: Firstly, it seems that although there is a body of research *around* Greek prisons, there is a paucity of research *within* prisons. This could be easily explained by difficulties in gaining access to prisons. Secondly, a lot of information regarding prison issues is appears in the local and national press, especially when there are uprisings. Consequently, prisons in Greece are presented as a place that is always there but is only sporadically visible.

1.2 Type of prisons and location of prisons

Sources of Information

In Greece, statistics on Political and Criminal Justice, as well as the Correctional Policy are published by the Greek National Statistical Service (GNSS), in a form of a Bulletin. The data composing the Tables of Reformatory Statistics for convicts and remands are gathered through Individual Statistical Cards (APPENDIX 1). Prisons' governors complete these Cards. For each prisoner leaving the prison a Card is filled; the Card contains the identification card number, the age, the profession, the educational level, the family status, the type of sentence served, the crime and the date and the reason for leaving prison. These data are sent every three months to the Ministry of Justice and are printed in a Bulletin for each year, which is available from the GNSS.

The present state regarding prisons in Greece

According to the Greek Correctional Code, the following prison categories, juveniles' reformatory institutions, and Institutions for Treatment and Guard exist in Greece (GNSS, 1996):

1) Prisons

a) *Judicial (Correctional Institutions)*: These establishments keep remand prisoners and convicts with sentences of up to one year. In different sections of these prisons are housed: i) prisoners awaiting trial for crimes or indictable offences; ii) those detained for non payment of debts; iii) sentenced convicts, iv) foreigners who are to be extradited. Furthermore, in these prisons are kept: recidivists, those convicted of crimes of negligence, those convicted for the first time with sentences of up to one year, remands aged under 21, female remands and female convicts. At the time of the

study (beginning of 1995¹) there were 12 correctional institutions in Greece, namely in Volos, Thessaloniki, Ioannina, Komotini, Korydallos, Kos, Larisa, Nafplio, Neapolis, Tripolis, Chania, and Chios (Figure 1.1).

b) Reformatory Institutions: In this category belong:

i. Closed (Criminal): These establishments house convicts serving sentences ranging from more than one year up to Life. At the beginning of 1995 there were 5 Closed institutions in Greece, namely Alikarnasos, Corfu, Patra, Trikala and Chalkida. Additionally, in this category also belongs one institution for female prisoners, located in Korydallos, Athens (Figure 1.1).

ii. Rural: These establishments keep only convicts who are eligible for agricultural tasks, after having already served a specific proportion of their sentence either in Judicial or Closed prisons. For example, having already served the following proportion of sentences: a) three months, (for those serving up to three years); b) six months, (for those serving 3 - 5 years); c) 1.5 years, (for those serving 5-10 years); 5) fifteen years, (for those sentenced to Life imprisonment). At the beginning of 1995 there were 3 Rural prisons in Greece, namely in Agia, Kassandra, Tiryntha (Figure 1.1).

2) Juveniles' reformatory and Educative institutions

a) *Juveniles' reformatory institutions:* These institutions keep juveniles convicts up to 21 years old. There are two institutions of this type, one in Athens (in 1995, it was located in Korydallos, but in 1999 it was transferred in Avlona) which houses both convicts and remand juveniles, and another in Kassabetia, which is of rural type.

b) *Juveniles Educative institutions:* These institutions house juveniles from 7 to 17 years old, who commit crimes or seem to morally deviate. They are for both boys and

¹ I use this particular date as a reference, because that year I started the research.

girls and offer primary and vocational education. There are two institutions of this kind for boys (one in Athens, one in Volos) and one for girls (in Athens).

3) Institutions for Treatment and Guard

These institutions keep those inmates suffering from mental or physical illness and need special treatment. They also keep those IDUs who are considered "dangerous" and need special care. There are two institutions of this kind. One is the Inmates' Mental Hospital of Korydallos, in Athens and the other is the Prevantorio, in Amfissa.

1.3 Location of prisons

All Greek adult Prisons, by category (Judicial, Closed, and Rural) are graphically presented in the Figure 1.1. Marked in different colour, are also seen the selected institutions for this study.



Figure 1.1 Location of Greek Rural, Closed and Judicial institutions



1.4 Characteristics of prison population

Following approval of the study design by the Ethics Committee of the Department of Psychology, University of Stirling, in June 1994 a letter explaining the purpose, the rationale and the methodology of the study was sent to the Greek Ministry of Justice, asking for permission to enter a number of selected institutions and conduct the study. Permission was granted on July 1994, on condition that I would first communicate with the prisons' governors to arrange the details so that the survey did not disturb the prisons' daily routine. Then, a letter was sent to every prison's governor (November, December 1994 - January 1995), by which they were informed about the study and asked to provide information regarding the number of remand and convicted inmates incarcerated, by offence categories. At the same time a letter was sent to the Federation of Prison Officers of Greece, informing them of the proposed study. Furthermore, I informed the person in charge of all Social Workers working in prisons about the survey. Young offenders' institutions as well as Institutions for Treatment and Guard (for adults) were excluded from the study design, thus no data were gathered.

According to the information provided by prison governors, in March 1995, in total there were 5,034 male and 199 female inmates (total: 5,233) (both Greeks and foreigners) kept in prisons. The equivalent data provided by the Statistical Service of the Ministry of Justice showed that in total, there were 5,022 inmates incarcerated. The slight difference in the figures could be attributed to the difference over the time period the data was gathered and the mobility of inmates. At the same time, according to the Ministry of Justice, the capacity of all Greek Prisons was 3,409 inmates. Based on these figures, it was estimated that Greek prisons were overcrowded by 53.5% when the study started.

The Ministry of Justice also provided us with the number of foreign inmates, but only for December 1995. According to the figures, there were 1.539 foreign inmates in Greek prisons, representing 22.4% of the total prisons' population.

Table 1.1 presents the number of male adult inmates by type of prison and by prisoners' categories.

Table 1.1: Number of male adult prisoners, by type of prison and by prisoners' categories*.

Type of prison	Type of prisoners		Total (%)
	Convicts (%)	Those awaiting trial (%)	
Closed	1099 (86.06)	178 (13.94)	1277 (25.36)
Judicial	1899 (58.64)	1339 (41.36)	3238 (64.32)
Rural	519 (100.0)	0	519 (10.32)
Total	3517 (69.86)	1517 (30.14)	5034

* Data based on prison governors' reports

As can be seen in Table 1.1, Closed prisons kept 1,277 adult male prisoners (both convicts and prisoners awaiting trial), representing 25.3% of the total number of male prisoners in Greece. Judicial prisons kept 3,238 adult male prisoners (both convicts and those on remand), representing 64.3% of the total number of male prisoners. Finally, Rural prisons kept 519 adult male prisoners (all convicts), who represented 10.3% of the total number of male prisoners.

Table 1.2a shows the numbers of female prisoners. As can be seen, the sole female institution kept 199 adult prisoners (both convicts and prisoners awaiting trial). Female prisoners represented the 3.8% of the total number of prisoners in Greece (Table 1.2b).

Table 1.2a: Number of female adult prisoners, by prisoners' categories (N=199)

Type of female prisoners		Total
Convicts (%)	Those awaiting trial (%)	
135 (67.83)	64 (32.17)	199 (100.0)

Table 1.2b: Total number of adult prisoners, by sex (N=5233)

Sex of prisoners		Total (%)
Male (%)	Female (%)	
5,034 (96.2)	199 (3.8)	5,233 (100.0)

1.5 Staff/Inmates Ratio

Tables 1.3 (a & b), 1.4 (a & b) 1.5 and 1.6 present the number of adult male and female inmates (convicts and those on remand) by each institution and by offence category, for the Closed, Judicial and Rural Prisons respectively. At the bottom of each Table, the number of prison staff by institution is also presented.

Looking at the data of the above Tables, one can draw some conclusions regarding the human geography of Greek prisons:

- Those charged or convicted for Transgression of Drug Law were over-represented in relation to other offence categories (see Figure 1.2)
- The Closed Prison of Patra is not only the biggest of all Closed institutions, but also keeps the vast majority of convicts and remand inmates imprisoned for drug related offences.
- The Judicial Prison of Tripolis keeps the biggest number of inmates charged with sexual crimes.
- The Judicial Prisons of Larisa and Korydallos keep together a significant majority of inmates imprisoned for property crimes.

- The Judicial Prison of Korydallos is the biggest institution in the country and keeps by far the vast majority of all remand prisoners.
- In total, there were 1.324 prison officers to cover the four shifts of the prisons and to guard 5.233 inmates, thus giving a ratio 1/5 between staff and inmates.

More recently, the situation in Greek prisons has worsened. According to the very latest statistics from the Ministry of Justice, on October 1st 2000, the capacity of all Greek correctional Institutions was 4.825 places; at the same time there were 8.150 inmates incarcerated (overcrowding rate: 68.9%). The proportion of foreigners incarcerated has increased and ranges from 45% to 47%, while the proportion of female prisoners remains roughly the same of 3.5-4%. The number of guards has slightly increased (1500) but the ratio between staff and inmates remains the same (1/5) (Ministry of Justice, 2000, as publicised in the newspaper "TA NEA" {"THE NEWS"}, 6/11/2000).

Figure 1.2 Offences committed by Greek inmates as reported by prisons' administrators on March 1995

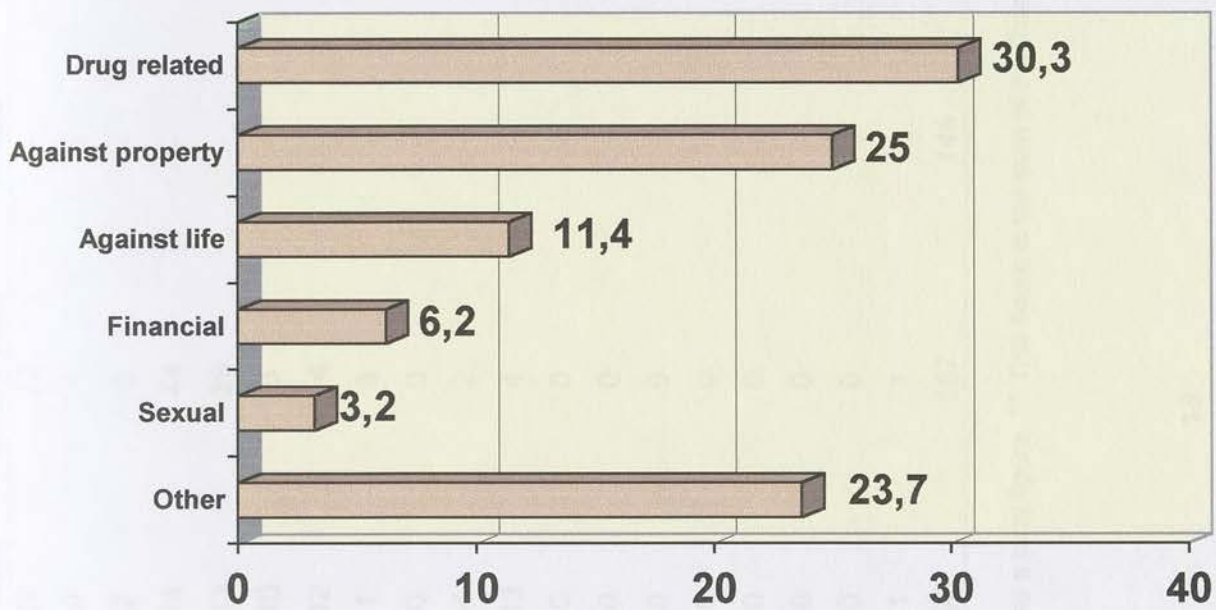


Table 1.9a. Number of crimes presented by

OFFENCE	Corfu	Patra	Chalkida	Alikarnasos	Trikala*	TOTAL
Wilful murder	53	26	28	73	-	180
Fatal bodily harm	1	2	0	1	-	4
Attempted homicide	4	11	2	6	-	23
Transgression of Drug Law	15	425	14	44	-	498
Grand larceny	17	42	13	39	-	111
Theft	0	0	10	0	-	10
Robbery	10	16	12	14	-	52
Rape/ Incest	2	1	1	3	-	7
Attempted rape	1	0	0	0	-	1
Illegal entrance in Greece	7	5	4	2	-	18
Deceit	2	8	13	4	-	27
Pimping	0	1	0	0	-	1
Circulation of forged money	0	0	0	0	-	0
Illegal gun possession	0	0	0	0	-	0
Complicity to homicide	0	5	0	0	-	5
Seduction of a minor	0	1	0	0	-	1
Dangerous bodily harm	0	3	0	0	-	3
Other offences	0	8	0	0	-	8
Defalcation	1	1	1	1	-	4
TOTAL	113	555	98	187	146	1099**

* The authorities of this institution did not provide detailed figures; they just provided a total figure. ** This figure is the sum of the Totals of each institution

OFFENCE	Corfu	Patra	Chalkida	Alikarnasos	Trikala	TOTAL
Wilful murder	3	2	4	0	-	9
Attempted homicide	1	9	1	0	-	11
Transgression of Drug Law	8	69	7	4	-	88
Theft	2	16	4	7	-	29
Robbery	0	5	2	0	-	7
Rape	1	0	1	0	-	2
Attempted rape	1	3	2	0	-	6
Seduction of a minor	1	0	0	0	-	1
Circulation of forged money	4	0	0	0	-	4
Other offences	0	6	1	0	-	7
Deceit	0	2	1	0	-	3
Forgery	1	0	1	0	-	2
TOTAL	22	112	24	11	9	178**
GRAND TOTAL (1.3a + 1.3b)	135	667	122	198	155	1277
PRISON STAFF	81	127	54	44	60	366

* The authorities of this institution did not provide detailed figures; they just provided a total figure. ** This figure is the sum of the Totals by each institution

TABLE 1.4a: Number of control procedures, by province

OFFENCE	Volos	Ioannina	Komotini*	Korinthos	Kos	Thessaloniki*	Larisa	Nafplio	Neapolis	TOTAL
Wilful murder	0	1	-	0	0	-	70	3	5	79
Fatal bodily harm	3	2	-	0	0	-	7	0	2	14
Dangerous bodily harm	2	0	-	3	0	-	0	2	0	7
Attempted homicide	0	2	-	0	3	-	10	4	4	23
Transgression of Drug Law	5	9	-	10	11	-	99	22	7	163
Pimping	0	0	-	0	0	-	0	1	0	1
Grand larceny	22	27	-	13	6	-	168	20	4	260
Theft	0	0	-	0	0	-	0	15	3	18
Robbery	3	6	-	1	1	-	56	8	1	76
Rape/ Incest	0	4	-	1	2	-	10	1	0	18
Attempted rape	0	1	-	0	1	-	2	0	0	4
Illegal entrance in Greece	9	11	-	2	2	-	24	4	0	52
Deceit	1	5	-	8	1	-	19	7	0	41
Forgery	1	0	-	0	0	-	0	0	0	1
Circulation forged money	0	0	-	0	0	-	0	0	0	0
Illegal gun possession	0	0	-	0	0	-	0	1	0	1
Defalcation	1	2	-	1	1	-	10	2	0	17
Other offences	5	0	-	1	1	-	13	11	13	44
TOTAL	52	70	130	40	29	219	488	101	39	1168**

* The authorities of these institutions did not provide detailed figures; they just provided a total figure. ** This figure is the sum of the Totals by each institution

OFFENCE	Chania	Tripolis	Chios	Amphissa	Korydallos	TOTAL
Wilful murder	2	3	2	-	20	27
Fatal bodily harm	1	0	0	-	3	4
Attempted homicide	4	1	2	-	12	19
Transgression of Drug Law	12	2	3	-	188	205
Grand larceny	15	3	8	-	160	186
Theft	0	0	0	-	0	0
Robbery	6	3	0	-	11	20
Pimping	0	0	0	-	0	0
Rape/ Incest	0	38	0	-	8	46
Attempted rape	1	8	0	-	4	13
Illegal entrance in Greece	2	0	1	-	11	14
Deceit	1	2	2	-	82	87
Circulation forged money	0	0	0	-	0	0
Illegal gun possession	0	0	0	-	0	0
Defalcation	1	0	0	-	68	69
Other offences	0	0	4	-	0	4
TOTAL	45	60	22	37	567	731**

TOTAL (Convicts)

1899

* The authorities of these institutions did not provide detailed figures; they just provided a total figure. ** This figure is the sum of the Totals by each institution

Table 1.4b: Number of remand inmates, by prison and by offence, and prison staff by prison, for the twelve Judicial Prisons

OFFENCE	Volos	Ioannina	Komotini*	Korinthos	Kos	Thessaloniki*	Larisa	Nafplio	Neapolis	TOTAL
Wilful murder	2	0	-	1	0	-	1	3	2	9
Attempted homicide	0	0	-	0	1	-	5	3	3	12
Transgression of Drug Law	11	29	-	10	13	-	60	16	20	159
Theft	21	13	-	1	12	-	20	4	5	76
Robbery	5	0	-	0	0	-	7	6	5	23
Rape	0	1	-	1	0	-	1	1	1	5
Attempted rape	0	0	-	0	0	-	0	1	1	2
Seduction of a minor	1	0	-	0	0	-	0	0	0	1
Circulation forged money	0	0	-	0	0	-	0	1	0	1
Forgery	2	1	-	0	1	-	0	0	2	6
Other offences	4	0	-	0	7	-	0	1	20	32
TOTAL	46	44	70	13	34	198	94	36	59	594**
PRISON STAFF	30	35	47	19	15	87	114	25	20	392

* The authorities of these institutions did not provide detailed figures; they just provided a total figure. ** This figure is the sum of the Totals by each institution

Table 1.4b (cont.): Number of remand inmates by prison and by offence, prison staff by prison, total number of inmates and staff, for the twelve

Judicial Prisons						
OFFENCE	Chania	Tripolis	Chios	Amphissa*	Korydallos	TOTAL
Wilful murder	6	2	0	-	30	38
Attempted homicide	2	0	0	-	26	28
Transgression of Drug Law	16	0	1	-	300	317
Theft	12	0	1	-	263	276
Robbery	5	0	0	-	0	5
Rape	2	3	1	-	23	29
Attempted rape	1	0	0	-	2	3
Seduction of a minor	0	0	1	-	6	7
Circulation forged money	0	0	0	-	4	4
Grand larceny	0	0	0	-	0	0
Illegal entrance in Greece	0	0	0	-	0	0
Deceit	0	0	0	-	0	0
Defalcation	0	0	0	-	0	0
Simple Complicity	0	0	0	-	0	0
Instigator	0	0	0	-	0	0
Other offences	0	1	0	-	0	1
Forgery	0	0	0	-	32	32
TOTAL	44	6	4	6	686	745**
PRISON STAFF	29	21	13	42	154	259
TOTAL (Remands)						1339
GRAND TOTAL (Inmates)						3238
GRAND TOTAL (Prison Staff)						651

* The authorities of this institution did not provide detailed figures; they just provided a total figure. ** This figure is the sum of the Totals by each institution

Table 1.5: Number of convict prisoners, and prison staff by prison and by offence, for the three Rural Prisons

OFFENCE	Kassandra	Tirynta	Agia	TOTAL
Wilful murder	18	17	22	57
Fatal bodily harm	1	3	0	4
Attempted homicide	2	6	0	8
Transgression of Drug Law	18	59	23	100
Grand larceny	16	9	17	42
Theft	0	30	0	30
Robbery	15	16	16	47
Rape/ Incest	0	1	6	7
Attempted rape	0	1	0	1
Illegal entrance in Greece	0	8	15	23
Deceit	0	6	0	6
Pimping	0	0	0	0
Jehovah's witnesses*	80	24	26	130
Circulation of forged money	3	3	0	6
Illegal gun possession	0	0	0	0
Complicity to homicide	0	0	0	0
Seduction of a minor	4	5	0	9
Dangerous bodily harm	3	4	0	7
Other offences	21	20	0	41
Defalcation	0	1	0	1
TOTAL	181	213	125	519
PRISON OFFICERS	76	78	73	227

* In Greece, as Jehovah's witnesses refuse to join the army (which is obligatory for all men), they are incarcerated in Rural prisons

Table 1.6: Number of convicts and remand female prisoners by offence, and number of prison staff

OFFENCE	Convicts	Remands	TOTAL
Wilful murder	17	5	22
Fatal bodily harm	1	0	1
Attempted homicide	4	1	5
Transgression of Drug Law	24	34	58
Theft	19	3	22
Robbery	4	3	7
Pimping	3	0	3
Circulation forged money	0	2	2
Grand larceny	8	4	12
Illegal entrance in Greece	7	1	8
Deceit	5	2	7
Defalcation	3	3	6
Simple Complicity	0	4	4
Instigator	0	1	1
Other offences	39	1	40
Illegal gun possession	1	0	1
TOTAL	135	64	199
PRISON STAFF			80

1.6 Problems of research in Greek prisons

It is worth mentioning at this point some things about the existing atmosphere in Greek prisons during the period immediately prior to study commencement (in March 1995). During the 18 months prior to March 1995 there existed unrest in most of the prisons. There were complaints regarding the living conditions within prisons, while it was a common secret that illicit drugs were brought and taken within prisons. It was also known that a racket of officers and prisoners brought and dealt drugs and guns in prisons (especially in the biggest Greek prison, in Korydallos, Athens) and a chief

officer of this prison had been arrested. In addition, the ex-president of the Federation of Prison Officers of Greece was then in jail, awaiting trial, being accused of "helping" a lifer to be early released, by "offering" him false extra working hours. The peak of the situation was the resignation of the Minister of Justice, who, it was said, could not quash these rackets.

Based on the figures mentioned on the previous paragraph (1.5) and "the atmosphere" described just above, one could conclude that Greek prisons – at the time of the study - were characterised by three important features: a) they were overcrowded; b) they kept a large number of foreign prisoners, mainly from Albania and Romania; c) finally, mostly because of a) and b), there had been considerable unrest and in some cases rioting. These features had a direct impact on the methodology of this study and had to be accommodated especially during the data collection phase.

Summary

CHAPTER 21 Literature Review

In this introductory Chapter, I have tried to describe the historical role of prison within Greek society, emphasising that prison was/is basically functioning as a place of social rejection with contradictory aims: to protect society from criminals, while preparing offenders to re-enter society. This basic feature characterises Greek prisons. These contradictory aims have contributed to serious uprisings both in Greek prisons and in other prison systems outside Greece.

I have also tried to show in this Chapter the geography of Greek prisons and the basic characteristics of inmates. When this study started in March 1995, there were 20 Institutions for adults in Greece classified according to Judicial, Closed and Rural penal regimes, according to the type of inmates they kept. The total number of incarcerated inmates was 5,233 (both males and females). Prisons housed predominantly males (female inmates represented only 3.8%), they were overcrowded by 53.5%, they kept a significant number of foreign inmates (22.4% in December 1995), they were run by 1,324 prison officers (1 officer / 5 inmates) and the most common offence for which inmates were incarcerated was titled "Transgression of Drug Law" (30.3%).

CHAPTER 2: Literature Review

2.1 Drug use in prison settings

2.1.1 Introduction – Drug use in the community

Drug injecting is a worldwide phenomenon and goes beyond any religious, cultural and political obstacles. It has been found in countries of all religious persuasions, all stages of economic development and all political systems (Stimson and Choopanya, 1998).

Illegal drug use first emerged in Western European countries as a significant social phenomenon among the young population in the late 1960s and early 1970s - mainly on the wave of the protest movements. During this period, "addicts"¹ acquired a special social role in society: they were held up as examples of abnormal and deviant behaviour in a "normal" society (Groterath, 1999). The course of diffusion of drug injecting is different among various European countries. For example, in Sweden, by 1960s drug injecting in Stockholm was substantially established with peak incidence occurring between 1963 and 1968. In West Berlin, heroin injecting developed in the late 1960s and spread in the 1970s. In Scotland, drug injecting was established in Glasgow in the late 1970s, but did not escalate to significant levels until 1983. Nevertheless, the history of drug injecting in Western Europe shows that trends in the spread of drug use often transcend state

¹ There are many debates on the appropriateness of this term in accurately describing a person who is involved in taking psychoactive substances. This particular term is used in order to describe those using mainly illicit substances. The reasons for separating drug users (those using legally sold drugs) from "addicts" have little to do with the pharmacology, potency and 'dangerousness' of the substance itself. Rather, the reasons seem to have a great deal to do with "accidents of history, geography and politics" (Davies and Shewan, 2000, p. 233).

boundaries. Subregional diffusion of injecting was probably linked to the cultural homogenisation that occurred in Europe in the period following the Second World War. Also significant were the increasing opportunities for mobility and migration, the proliferation of, and the lessening state control over drugs, media sources and the rise of youth subcultures distinguished by fashion and style (including choice of drugs) (Stimson and Choopanya, 1998).

Drug injecting is a major factor in the spread of HIV-1 and other blood-borne diseases, like Hepatitis B and C and malaria (Stimson and Choopanya, 1998), while it can be associated with adverse effects on health through a number of ways (World Health Organisation, 1998). For example:

- ◆ Dosage and drug combination, such as overdose.
- ◆ Direct mental effects, as in acute intoxication, or chronic effects.
- ◆ Harmful effects from drug preparation, when contaminants are introduced by injection.
- ◆ Manner of administration, including physical damage or bacterial infections at injection sites.
- ◆ Living conditions, which increase vulnerability to infections such as pneumonia and tuberculosis.
- ◆ Lifestyle conditions, when injectors are victims of violence and accidents, or at risk from sexually transmitted diseases

According to the 2000 Annual Report of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), the overall picture of illicit drug use in the European Union (EU) is as follows. Cannabis remains the most widely available and commonly used drug across the EU, with substantial increases in use over the 1990s. Figures indicate that at least 45 million Europeans (18% of those aged 15 to 64) have tried cannabis at least once, while around 15 million (about 6% of those aged 15 to 64) have used cannabis in the past

12 months. Use is higher among younger age groups, with about 25% of those aged 15 to 16 and those aged 18 have tried cannabis. Amphetamines and ecstasy are the second most commonly used drugs in Europe. Following increases in the 1990s, ecstasy use appears to be stabilising or even falling, while amphetamine use is stable or rising. It is estimated that between 1 and 5% of those aged 16 to 34 have taken amphetamine and/or ecstasy and that rates are higher in narrower age groups. While cocaine is less commonly used than amphetamine and ecstasy, its use is rising - particularly among socially active groups - and spreading to a broader population. Figures show that between 1 and 6% of those aged 16 to 34 and 1 to 2% of school children have tried cocaine at least once, although some surveys show levels of up to 4% among 15 to 16-year-olds. Finally heroin dependence remains broadly stable. Known users are a largely ageing population with serious health, social and psychiatric problems, although indicators of heroin use amongst some younger groups are noted. Figures show that heroine experience overall remains low (1 to 2% in young adults) and school surveys show pupils being highly cautious about using heroin. It is noted that heroin use is reported amongst young, heavy, "recreational" users of amphetamines, ecstasy and other drugs. Other high-risk groups include marginalised minorities, homeless young people, institutionalised youth and young offenders, prisoners (mostly women) and sex workers.

In the U.S.A., the country with one of the longest histories of self-injection of drugs, the prevalence rate for substance abuse/dependence among the general population is 7.6% (Peters and Steinberg, 2000). On the other hand, the limited references regarding the situation in Sub-Saharan Africa indicate only general patterns of drug use in the region's general population. It is estimated that the absolute use of psychoactive products such as codeine, ephedrine and benzodiazepines is increasing (Ohaeri, 2000), while the heroine and cocaine use is not yet manifest as a serious problem. On the other hand, in

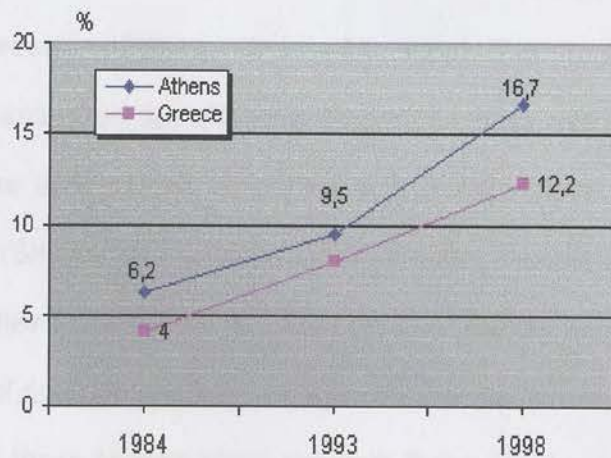
North African countries like Egypt, heroin injecting has been present since at least the beginning of 1980s, with an estimated 40,000 users, of whom an estimated one-third inject (Stimson and Choopanya, 1998).

2.1.2 Historical Development of drug use in Greece - Drug use in Greek general population

Until the 70s, illicit drug use in Greece was quite limited and mainly confined to certain sections of the working-class population in large cities. The majority of users derived from immigrants from Asia Minor and smoked cannabis as part of an eastern cultural tradition. A significant increase in illicit drug use from the mid-70s was noted empirically and also supported by law enforcement data. The phenomenon spread widely and appeared in a form quite different from the past socio-cultural context, breaking the long-existing barriers of socio-economic class, sex and age. From 1977-78 the use of illicit drugs - and more specifically of opiates as well as of licit psychotropics - seemed to spread among young people (15 to 25 years old) as evidenced by indirect indicators (police and treatment demand indicator) (Greek REITOX Focal point, 1997). In Greece, the drug abuse epidemic appeared less widespread than in the USA and Western Europe (Kokkevi, 1987; Kokkevi and Stefanis, 1991). Although it is difficult to provide accurate estimates of the total number of 'drug addicts' in Greece, indications from epidemiological studies, as well as data from the prosecution agencies and the Ministry of Health converged to a number of about 40,000 persons in the beginning of 90s (Kokkevi *et al.*, 1990). Nevertheless, with a time lag of 10 years behind the rest of Europe, Greece seems to have followed the same course of the drug epidemic as soon as historical and cultural changes permitted it while, as time goes by, the gap between Greece and the rest of Europe seems to have narrowing (Kokkevi *et al.*, 2000).

The first epidemiological surveys to assess the magnitude and nature of the drug use phenomenon in Greece were carried out in 1984. There were two nation-wide surveys, one of the general population aged 12 to 65 (N = 4,297) and another of the school population aged 14 to 18 (N = 11,058). The subsequent replication of these surveys, in 1993 and in 1998, provided data on trends in drug use in the country. Data from the 1998 nation-wide survey of the Greek general population aged 12 to 64 (N=3,759), conducted by the University Mental Health Research Institute indicated that the reported lifetime use of any illicit drug, i.e. marijuana, hallucinogens, cocaine, crack and heroin, rose to 12.2% in 1998 from 4% in 1984 (Figure 2.1). Among younger adults aged 18 to 35, the reported lifetime prevalence was around 22%. Last 12 month use prevalence was 4% in the total sample, while among younger adults (aged 18 to 24) the rate was three times as high (12.9%) (Kokkevi *et al.*, 2000).

Figure 2.1 Trends in the drug use in the general population



SOURCE: University Mental Health Research Institute, 1998

Males had about three times the lifetime prevalence of any illicit drug compared to

females. Cannabis was not only the most popular illicit drug, but also the drug that determined lifetime and last 12 months prevalence rates of the category "any illicit drug", as much among all adults as among younger ones. All other illicit drugs had a much lower prevalence in the total sample, of no more than 1.1% each. It can be inferred that anyone who had used some illicit drug had most probably used cannabis. The second most popular illicit drug, albeit at much lower levels than cannabis, was cocaine, lifetime use of which was reported by 2.7% of those aged 18 to 25 and by 1.1% of the total sample. Overall unprescribed use of illicit psychoactive substances had decreased markedly since 1984. From 13.5% in 1984, lifetime prevalence of use of illicit psychoactive substances fell to 9.2% in 1998 (Kokkevi *et al.*, 2000).

2.1.3 Drug use and imprisonment

It is highly probable that a large proportion of IDUs are incarcerated during their drug-using careers. Generally speaking, the drug-using part of a prison population falls into one of the three broad groups. First, there are those who actually use drugs or are involved in the possession of drugs with intent to supply them to others. Second, there are those who are incarcerated for offences other than drug use, but who happen to be involved in drug use at the same time. Finally, there are those who acquired their drug habit whilst in gaol (Shewan and Davies, 2000). Evidence exists that there are more IDUs in correctional facilities than in drug treatment centres (Brewer and Derrickson, 1992).

Two types of sources provide evidence on the relationship between drug use and imprisonment. First, those studies which estimate those who have been incarcerated for a drug related offence. Dolan (1993) provides data from English and Welsh prisons suggesting that in 1988, approximately 3,500 people received custodial sentences for drug offences. Nevertheless, this author estimates that this figure perhaps underestimates the

actual number of IDUs in prisons, as many drug injectors are probably sentenced for non-drug offences, such as property theft. Riley (1992) reports that in 1992 there were 1,200 inmates serving time for drug related offences in Canadian federal prisons.

A second type of source are those studies which data are based on estimates of inmates (or ex inmates) that report any type of drug use outside or inside prison. Research data from France, Holland, Switzerland, Italy and Spain indicate that 20-30% of prisoners had injected drugs at least once a week, during the three months prior to their imprisonment (Harding, 1990). Very recent data of IDUs currently incarcerated or with a history of imprisonment indicate that in Germany every third to sixth inmate is or has until recently consumed illegal drugs, particularly injection drugs (Jacob and Stöver, 2000). In Brazil, 56% of a sample of 294 cocaine users had been arrested at some stage in their life (Dunn *et al.*, 2000). In the U.S.A., the prevalence rate for substance abuse/dependence among the prison population was 56% in 1993 (Peters and Hills, 1993, cited in Peters and Steinberg, 2000). In Scotland, 27.5% of 559 prisoners were injecting prior to their imprisonment (Power *et al.* 1992a), while other studies in Scottish prisons have reported even higher percentages of injection prior to imprisonment (Dye and Isaacs, 1991; Shewan *et al.*, 1994). In a series of studies in Scotland, the Willing Anonymous Salivary HIV (WASH) surveillance methodology was used (Gore and Bird, 2000). The methodology comprised advanced publicity and explanation of the study rationale to all prisoners, reception of a saliva sample and self-completion of an anonymous risk-factor questionnaire from the participants, as well as a procedure of linking the saliva sample and the questionnaire by a sealed number and enveloped pair chosen at random, by the prisoner. WASH surveillance delivered "democratic anonymity", as prisoners themselves linked saliva sample and questionnaire and then physically separated them, thus achieving the maximum level of anonymity (Gore and Bird, 2000). Results of these studies showed

that 32% of adult male inmates and 46% of female inmates reported a history of injecting drug use (Gore and Bird, 2000). In the Netherlands, it is estimated that one-third of the annual intake of detainees used hard drugs such as heroin and cocaine before being detained. In raw numbers, this means that (for 1995), about 10,000 drug users entered the Dutch prison system (Van Doorninck and de Jong, 2000).

These figures indicate that drug use and incarceration are the two sides of the same coin and that prisons throughout the world have the potential to act as settings of high-risk behaviours (Shewan and Davies, 2000), resulting in HIV (and other blood born viruses) transmission both among inmates and the general population.

2.1.4 Drug use and imprisonment in Greece

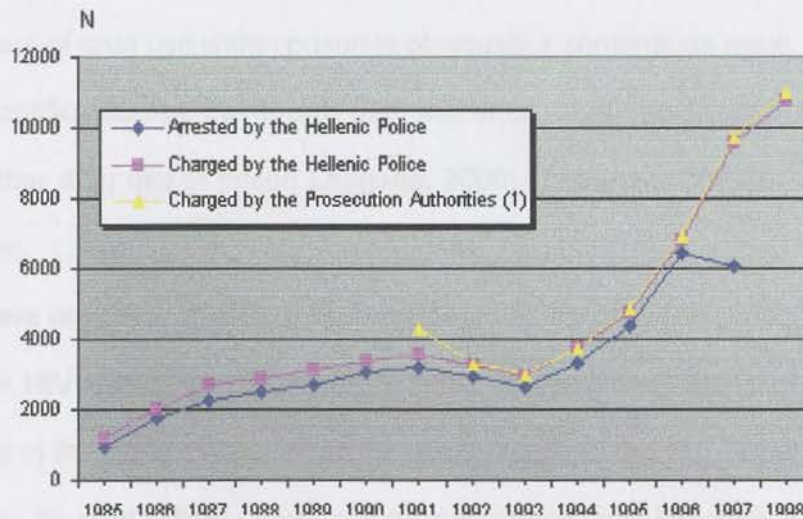
In Greece also, the rates of arrests and convictions are used as one of the indicators of the relationship between drug use and imprisonment. In Greece, the various prosecuting authorities are Police, Custom Service, the Body of Prosecuting the Financial Crimes and Port Authorities. It is estimated that of all arrests in the country, Police does 95%. A person is considered "arrested" when kept by any prosecuting authority as a suspect for violation of the Drug Law. A person is "charged" when a charge for violation of the Drug Law - usually made by an attorney - is pending, although in some cases, the person may have not been arrested.

Recent data on arrests and charges for violation of the Drug Law, collected by the Central Anti-Drug Co-ordinating Unit, show a strong increase during the last 5 years (University Mental Health Research Institute, 2000). There has been a strongly increasing trend in drug-related arrests and charges mainly after 1993 (see Figure 2.2). The number of charges by all prosecuting authorities in 1995 (N = 4,887) increased by 30% over 1994 (N = 3,762) after a decrease observed between 1991 and 1993. During 1998 the number

of charges was 10,973 (94.4% males and 5.6% females). There was an increase of 12.8% in 1998 in the number of arrests compared to 1997 (N = 9,729).

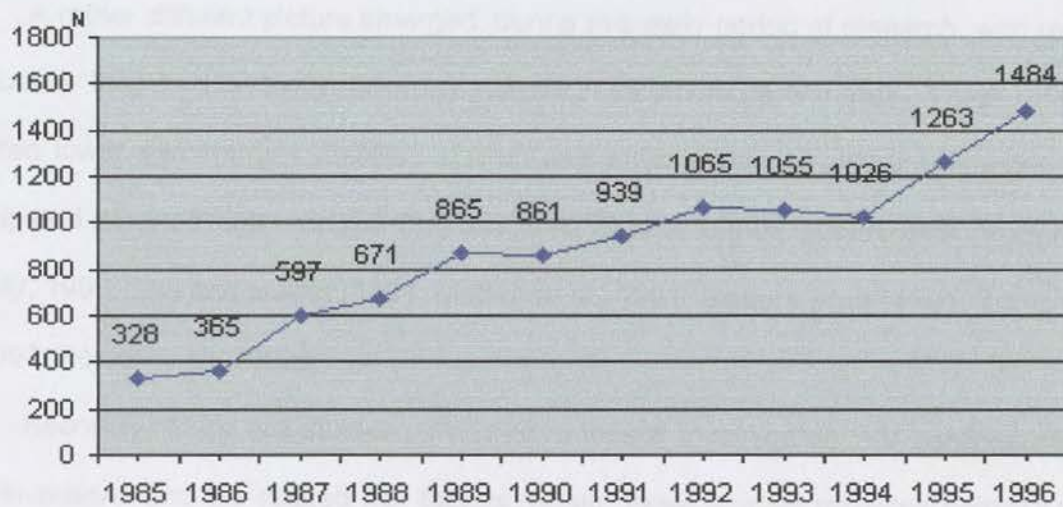
The latest data (released in 1999) on convictions under drug laws from the Statistical Service of the Ministry of Justice refer to 1996. Drug related offences have increased steadily, reaching 1,484 in 1996, nearly a three-fold increase (307%) over 1986 (see Figure 2.3). Compared to 1995 (N = 1,265) there was an increase of 17.5% in the number of convictions in 1996, while compared to 1994 (N = 1,026) there was an increase of 44% in 1996. In 1996, 58.4% of convictions were for use, 31.6% for trafficking and 10% for drug cultivation.

Figure 2.2: Drug related arrests and charges by the Hellenic Police and charges by all prosecuting authorities: 1985-1998.



Source: Hellenic Police and Central Anti-Drugs Co-ordinating Unit, 1999. Available data: 1991-1999.

Figure 2.3: Convicted drug law offenders: 1985-1996



Source: Statistical Service of the Ministry of Justice, 1999.

2.1.5 Prison studies re Drug use

The extent of drug use within prison is obviously a contentious issue. An increasing number of scientific studies have provided evidence of the existence and extent of injection and other drug use in prison (Jürgens, 2000). Two major groups of studies have been undertaken.

First, there are those studies that investigated solely drug use among prisoners, as a risk factor for HIV and other blood born viruses' transmission. Many of these studies were conducted in the early 1990s, and took place mostly in the UK, but also in Australia and in the US. Studies which were conducted among non-imprisoned samples, for example ex prisoners and current IDUs at liberty showed high percentages (44-94%) of IDUs who had ever injected drugs within prison and high frequencies of drug use in prisons (Wodak *et al.*, 1990; Carvell and Hart, 1990; Kennedy *et al.*, 1991). Nevertheless, these studies suffered from serious recruitment biases and modest sample sizes (Gore

and Bird, 2000) while the fact that their samples were constituted mostly by IDUs at liberty posed serious validity issues (McKee and Power 1992).

A rather different picture emerged, during this early period of research, with regard to studies that had actually involved currently incarcerated inmates. These studies reported lower percentages (2-24%) of drug use while in prison, although inmates who participated reported high levels of drug use (8-92%) prior to their incarceration (Potter and Conolly, 1990; Dye and Isaacs, 1991; Maden *et al.*, 1991; Magura *et al.*, 1991; Turnbull *et al.*, 1991; Power *et al.*, 1992a).

Secondly, there are studies, which have mostly investigated HIV seroprevalence rates in prisons and the related risk factors. Again, these studies recruited both IDUs at liberty and currently incarcerated inmates and confirmed the above-mentioned pattern of drug use within prisons. Müller *et al.*, (1995) studied 612 IDUs in Berlin and showed that of IDUs ever imprisoned, 48% reported intravenous drug use during incarceration. During the last 6 months 149 IDUs (42%) reported having been in prison. Out of those, 42% reported intravenous drug use during incarceration. Of those who injected drugs during a period of incarceration, (n = 202), 29% stated a frequency of less than five times, 6% injected less than 10 times, 21% injected 10-50 times, and 53% used intravenous drugs more than 50 times in prison. Korte *et al.* (1998) distributed questionnaires on drug use in 354 prisoners in Finland. Approximately 30% of the prisoners had used illegal drugs during their current imprisonment, while 10% revealed that they had injected them. Gore and Bird (2000) reported that in six separate studies conducted in male Scottish prisons and one in Cornton Vale female prison, using the WASH methodology, 58% (411/714) and 57% (32/56) of male and female injectors inmates respectively, had ever injected in prison. On the other hand, studies in Brazil (Lorenço, 1992; Marins, 1995; Kallás, 1996) reported very low levels of injecting drugs (1.5 - 2%) while in prison. Similarly low levels of injecting

behaviour (1%-2%) among inmates (N = 3,200) were reported in the Prison Psychiatric Morbidity Survey (Singleton *et al.*, 1998) in the UK. Although the above group of studies were characterised by strict and carefully designed methodology – especially Scottish studies by Gore and Bird (2000) - as can be seen there is again considerable diversity between their results on the extent of drug use in prison. This could partly be attributed to the different samples recruited and the different circumstances under which the surveys took place.

In any case, the figures of all the above studies indicate that there is a relatively high prevalence of drug use in prison. Nevertheless, although voluntary anonymous prison studies have provided indirect evidence that a population repeatedly imprisoned or having injected drugs in prison has higher HIV prevalence (Bird and Gore, 1994), the above figures are misleading, unless they are considered in relation to what IDUs did before their incarceration and whether or not risky practices (i.e. sharing) and precaution measures (i.e. sterilisation) were taking place within prison. Only this way of viewing the situation would really show the role of prison as mediating risk factor for the transmission of HIV. Dolan (1997) mentioned that «being in prison doesn't necessary mean that IDUs will engage in risk behaviour» (pp. 11) and «injecting in prison is not a risk for HIV unless syringes are shared» (pp.12). For this reason, assessing the extent of sharing is crucial to understanding the potential for HIV spread in prison (Dolan, 1997). Different studies throughout Europe, the USA and Australia have attempted to investigate these issues. Different individual studies as well as relevant reviews (McKee & Power, 1992; Crofts *et al.*, 1996; Dolan, 1997) suggest that HIV high risk behaviours are primarily associated with incarceration and confirm the fact that IDUs inject less but share more when they are in prison than in the community (Power *et al.*, 1992a; Turnbull *et al.*, 1992; Shewan *et al.*, 1994a; 1994b; 1995; Marins, 1995; Müller *et al.*, 1995; Taylor *et al.*, 1995; Singleton *et al.*,

1998). In other words, despite most IDUs stopping injecting on entry to prison, among those who continue to inject, levels of sharing are considerably higher than that reported by such individuals whilst in the community. That means that prison actually acts as a modifier of HIV risk behaviour, but towards a direction of heightening HIV-risk.

With regard to precautionary measures adopted by inmates, there is some evidence that some form of HIV risk reduction strategies (i.e. use of new needles, less sharing, sterilisation of works before sharing) are practised by the majority of IDUs prior to imprisonment, during imprisonment and were expected to continue after release (Power *et al.*, 1992a). Nevertheless, results from an Australian study (Dolan *et al.*, 1994) that monitored a bleach distribution programme for inmates, showed that three years after the distribution of bleach begun, 62% of inmates still found it difficult to gain access to it.

In reviewing the literature concerning the extent of HIV high-risk behaviours among penal populations a significant limitation is that many reports have focused on single institutions and thereby prevented generalisability to the larger prison population. Additionally, the diversity of prison samples within any one country might be as great as that when comparing prison populations between countries. Another limitation of the above studies is that they were primarily surveys that examined the extent of drug use and sharing practices while failing to examine the correlates and determinants of such practices. One of the few studies that have investigated the dynamics of drug using behaviour among prisoners is reported by Shewan *et al.* (1994a). In this study, a purposive sample of 234 prisoners from four Scottish adult male prisons was interviewed. Factors most closely identified with sharing behaviour within prison were: having injected a wider range of drugs in prison; frequency of Temgesic use; being prescribed methadone in the community, then having that prescription discontinued on entry to prison.

2.1.6 Prison studies re sexual behaviour (re risk behaviours of inmates)

It seems that homosexual activity occurs inside prisons, as it does outside, as a consequence of preferred sexual orientation (Jürgens, 2000). The prevalence of sexual activity in prison is difficult to estimate, while studies have shown «inmate's involvement to vary greatly» (Saum, 1995). The relationship between drug use and unsafe sexual behaviour has been documented (Schafer *et al.*, 1994) and a significant number of mainly epidemiological studies on IDUs' sexual behaviour have been conducted (Crisp *et al.*, 1993; Myers *et al.*, 1995; Rhodes *et al.*, 1998). Summarising the results of these studies, it becomes clear that the vast majority of IDUs are sexually active, with primarily heterosexual orientation and a primary partner. A significant majority of IDUs never use condoms with their primary partner, while one third of them follow the same unsafe practice with a casual partner. Many IDUs report having non-injecting or non-using sexual partners. Up to one forth of female IDUs work as sex workers. Finally, and most importantly, the limited follow-up studies of sexual behaviour change among IDUs have shown little or no marked change over time either in the number of reported sexual partners or in condom use with casual or primary partners.

On the other hand, a limited number of surveys have investigated sexual behaviours and practices among IDUs within prisons. The very early relevant research mostly relied on information obtained from prisoners when at liberty (McKee & Power, 1992), although there were some data derived from inmates in custody (Magura, 1991) which revealed relatively low levels of sexual activity within prisons. The first detailed survey that used a representative sample of inmates was conducted in Scotland (Power *et al.*, 1991; 1992b). Data from this study showed that prior to imprisonment, 465 out of 480 male inmates (96,9%) and 78 out of 79 female inmates (98.7%) had had a sexual relationship. The vast majority of that sample had an exclusive heterosexual orientation.

Prior to imprisonment, 81.9% of males and 71.8% of females had never used condoms. Sexual behaviour during imprisonment, as reported by inmates, was almost negligible for both males and females. Only one male inmate reported having had participated in anal intercourse during a period of incarceration, but he used condoms. Three female inmates also reported being sexually active while imprisoned. Expected sexual behaviour after imprisonment differed little from that before imprisonment. Although these figures might underestimate the level of sexual activity within prison – as inmates might hide sexual activities fearing stigmatisation - they were confirmed by subsequent studies in Scotland. Gore and Bird (2000) showed that less than 0.5% (10 out of 2,410) of their samples of adult male prisoners who participated in cross-sectional WASH surveillance, reported having had anal sex with another man in prison. Nevertheless, in a New York study, inmates and ex inmates reported frequent instances of unprotected sex behind bars (Mahon, 1996). In Canada, 6% of federal inmates self-reported having had sex with another inmate, with one third of them reporting condom use (CSC, 1996).

Other studies have been conducted among inmates, but refer to HIV-risk practices before incarceration. Rotily *et al.* (1994; 1995; 1997) reported that from their sample of 432 inmates from two remand and short-stay prisons in south-eastern France, 13% (47% for IDUs) reported sexual intercourse with an IDU during the last five years; 23.1% (19% for IDUs) reported more than two sexual partners over the last 12 months and 30% had never used condoms. Käll (1994) analysed the risk for sexual transmission of HIV to non-injecting partners of IDUs in the course of their drug-using career in a study of sexual behaviour of 200 detained Swedish IDUs. Results of this study showed that amphetamine injectors reported a higher frequency of intercourse with regular partners than did the heroin users, while the reported frequency of condom use was very low among the seronegative injectors. Based on the results, Käll (1994) confirmed the fact that HIV risk

for non-injecting sexual partners is shared along the course of the drug career of their injecting partners. The above figures indicate that although sexual behaviour is a significant HIV risk factor for IDUs at liberty, it is almost non-existent in prisons. Injecting is by far the major risk factor for HIV and other blood-borne virus transmission inside prisons rather than sexual risk (Bird and Gore, 2000).

2.1.7 Relevant Greek research

Until recently the pattern of social research on AIDS in Greece had been to study the social perception of AIDS threat in the general population (Agrafiotis *et al.*, 1991; Gnardellis and Agrafiotis, 1991), while marginalized groups such as prisoners have largely been ignored. In Greece, the few published studies on HIV risk behaviours of IDUs while in prison have been mainly descriptive and based on relatively small samples derived either from IDUs treatment services and AIDS Reference Centres, or from inmates from one or two specific institutions, which mostly hold IDUs inmates. Within the Greek context there is a limited amount of information available regarding the extent of IDU among inmates and the relationship between offending behaviour and drug use. Kokkevi *et al.* (1993) reported that of 264 heroin users recruited from treatment services and prison, 77.6% had been arrested while 57.1% had been convicted at least once for a variety of crimes.

Recently, a comparative cross-sectional study of changes in intravenous injecting drug use during the past six years, regarding common use of needles and sexual behaviour was conducted between two samples of IDUs who visited the AIDS Reference Centre, at the National School of Public Health, in Athens, in 1993 ($N_1 = 200$ {61% history of incarceration}), and in 1998 ($N_2 = 243$ {22% history of incarceration}) (Kornarou *et al.*, 1999). According to the results of this study, the frequency of shared-needle-use during the past six months differed little between the two study periods: 39.4% in 1993 and 38.6%

in 1998. However, the frequency of effective sterilisation increased from 10% to 18.9%. Many more IDUs stated that they used condoms particularly with occasional partners (from 22.1% to 64.5%). In general, the authors concluded that IDUs continue to follow high-risk practices related to the use of needles, although they appear to be more careful in their sexual behaviour.

With regard to drug use and sharing practices in prison, relevant data confirmed that Greek IDUs in custody reported high-risk drug using practices such as sharing of syringes and needles (Malliori *et al.*, 1994, 1998a), although earlier Greek studies with IDUs also reported high risk behaviour patterns among this group while at liberty (Kokkevi *et al.*, 1992). To the best of our knowledge, the only published Greek study among inmates was conducted by Malliori *et al.* (1998a). In order to determine HIV and hepatitis prevalence and risk behaviours, they interviewed 544 inmates who had been imprisoned for drug related offences, in two of the biggest prisons in Greece. From this sample, 375 inmates had injected drugs at some time; a significant minority of them (N = 132, 35.2%) continued injecting whilst in prison. Nevertheless, the vast majority of those injectors (N = 119, 91.5%) resorted to more risky behaviour by sharing injecting equipment.

As far as the sexual behaviour of IDUs, either at liberty or in prison, the relevant Greek data are scarce. Kokkevi *et al.*, (1992) reported that of 142 IDUs investigated while at liberty, three-fourths mentioned heterosexual and one-fourth mentioned homosexual contacts. Of this sample, 78.6% had not used condoms during sexual intercourse, while only 5.7% reported regular condom use. Finally, almost one-third of the sample admitted frequent change of sexual partners. To the best of our knowledge, no study until now has investigated the sexual behaviour of Greek inmates in detail. The above results seem to confirm the European pattern on drug use (Dolan, 1997) and sexual behaviour, but such data is of limited use regarding generalisability to all Greek inmates, as these latter studies

were based mostly on purposive samples.

Summary

A significant proportion of the general population throughout the world has some kind of relationship with illicit drugs. It seems that drug injecting is a worldwide phenomenon and goes beyond any religious, cultural and political obstacles. It has been found in countries of all religious persuasions, all stages of economic development and all political systems. It is highly probable that a large proportion of IDUs will spend a significant period of their drug-using careers incarcerated, either due to drug related offences (drug possession and use, or drug trade), or other offences, which might be related to drug use (i.e. theft in order to obtain syringes). There are also those who acquire their drug habit whilst in gaol. Relevant research throughout the world has shown that a significant proportion of IDUs use illicit drugs while in prison. Nevertheless, when research compares drug use pattern before incarceration versus while imprisoned, it seems that despite most IDUs having stopped injecting on entry to prison, among those who continue to inject, levels of sharing are considerably higher than that reported by such individuals whilst in the community. Additionally it seems that IDUs don't adopt precautionary measures (i.e. use of new needles, sterilisation of the works) while in prison. Sexual activities in prisons, although present, are limited and they don't seem to constitute a significant risk factor for HIV infection among inmates. Based on prevalence rates of the two risk behaviours (drug use and sexual activity), it seems that injecting is by far the major risk factor for HIV and other blood-borne virus transmission inside prisons rather than sexual risk.

2.2 HIV/AIDS in Prison settings

2.2.1 Introduction

Within Europe, the biggest concentrations of AIDS are found in the "IDUs" group, with 40.1% of the cumulative total (227,351) of reported adult and adolescents AIDS cases until 30/6/2000. This is more than the proportion of cases attributed to transmission through homosexual/bisexual activities, reported as 33.5%, and compares with 17.3% for heterosexual contact, 3.1% for those infected through blood products, 4.5% for those infected through other/undetermined route and 1.5% for homo/bisexual IDUs (European Centre for the Epidemiological Monitoring of AIDS, 2000). However, the comparative representation of the different categories varies enormously within the EU, with some countries exhibiting the largest concentrations of cases attributed to homosexual contact (i.e. France: 31,5%; Germany: 16.7%; UK: 15.6%), while other countries showing by far the largest proportions of cases attributed to IDU (i.e. Spain: 42.9%; Italy: 32.5%) (European Centre for the Epidemiological Monitoring of AIDS, 2000).

With regard to inmate populations, world-wide, rates of HIV infection are much higher than in the general population (Jürgens, 2000). These rates are closely related to the proportion of prisoners who inject drugs prior to their incarceration and the rate of HIV infection among IDUs in the community (Harding and Schaller, 1992a).

2.2.2 Historical Perspective

The issue of HIV/AIDS in prison was first addressed in 1983 when a study in New York State's prison (Wormser *et al.*, 1983) alerted public health authorities to the importance of injecting drugs in the transmission of the HIV virus. At the time, little attention had been given to the practical problems concerning AIDS prevention in prisons,

to the dangers of discrimination against HIV infected inmates and to the issues raised by people with AIDS who were dying while incarcerated. In 1985, panic reactions among both staff and inmates about the risk of contracting AIDS resulted in prison disturbances in both Europe and North America. The initial response of prison authorities to this situation was the development of educational programmes for staff and inmates, but also mandatory HIV-antibody testing, separate housing of HIV infected inmates and restriction of access to work and other leisure activities (Harding, 1987; Harding and Schaller, 1992a; 1992b).

The first response at an international level came from the Council of Europe, which commissioned a study on AIDS prevention and control measures in 17 European countries in 1986. Results of this study were publicised one year later (Harding, 1987). Reviewing the prevalence of HIV seropositive cases among inmates in 17 European countries Harding (1987) reported extremely high rates of HIV infection, especially in countries from southern Europe (i.e. Spain: 26%; Italy: 17%). At the same time, in the same report, these two countries also reported significant numbers of prisoners with AIDS (10 patients in Italy and 22 patients in Spain). In general, the study confirmed the expectation that in prisons there were higher rates of infected persons than in the general population. Based on these findings, the Council of Europe adopted clear recommendations to end discriminatory actions and to make preventive measures available. In November 1987, World Health Organisation organised a meeting on AIDS and prisons. In the resulting consensus statement from the meeting, it was stressed the need for environmental hygiene and medical care in prisons. It was also recommended the principle of equivalence of preventive measures between prisoners and the outside community. It stressed the need to re-examine criminal policies regarding IDUs. Nevertheless, five years later, it was showed that the effects of these recommendations had been limited (Harding and Schaller, 1992a).

2.2.3 Prison studies re HIV...

2.2.3.1 ...Prevalence

Harding's (1987) report raised more questions than answers. If seroprevalence was so high, why were case rates so low? What were the rates of risk factors in those same populations? Were these high rates reported from prisons specialising in the incarceration and treatment of IDUs? (Brewer and Derrickson, 1992). In the years following that first review on HIV prevalence in prisons (Harding, 1987), many seroprevalence studies amongst prisoners were carried out both in Europe and the USA (see McKee & Power, 1992; Brewer & Derrickson, 1992, Dolan, 1997, for review). Seroprevalence rates reported in the studies in Europe were significantly lower than of those reported by Harding and ranged from 0% to 10.9% among prisoners (Turnball *et al.*, 1992; Bird *et al.*, 1992, 1993a, 1993b; 1997; Gore and Bird, 2000; Rotily *et al.*, 1994; 1997; Pont *et al.*, 1994; Curtis, and Edwards, 1995;). In 1993 the first closely monitored outbreak of HIV transmission occurring within prison took place at HM Prison Glenochil, Scotland (Gore *et al.*, 1995; Taylor *et al.*, 1995; Yirrell *et al.*, 1997), confirming the role of injecting behaviour as a major risk factor for blood-borne virus transmission inside prison.

Regarding the situation in the U.S.A. a series of early reports (Hammet, 1989) prepared for the U.S. National Institute of Justice, as well as studies in individual prison systems mapped the highly variable prevalence rates in North America. (i.e. Nevada: 2.4%; Rhode Island: 4%; Florida: 21%; Maryland: 8.5%) (Horsburgh *et al.*, 1990; Dixon *et al.*, 1993; Mutter *et al.*, 1994; Behrendt *et al.*, 1994). More recent reports confirmed early results and indicated that in the United States, many systems continue to have rates under one per cent, while in a few places rates approach or exceed 20 per cent (Jürgens, 2000). In Canada, rates ranged between one and 7.7 per cent (Correctional Service Canada, 1994a; 1994b). For example, the prevalence of HIV infection was two per cent among the

participant inmates (n = 618) at the Quebec Detention Centre (Dufour *et al.*, 1996). In Australia, the low levels of HIV in the community were reflected in prisons (Crofts *et al.*, 1995; Dolan and Crofts, 2000). For example, the prevalence of HIV infection was less than one percent among prison entrants in Australia (Feachem, 1999). On the other hand, reports from developing countries, like Brazil, (Lorenço *et al.*, 1992) indicated that in a sample of 1,692 new entrants of São Paulo's largest prison, 21.6% were already infected on entry into prison. Nevertheless, the prevalence of HIV among drug users in the community was much higher in Brazil (in Santos: 60%; in Rio de Janeiro: 40%) as shown in the WHO Multi-city study of HIV prevalence among IDUs (Malliori *et al.*, 1998b).

All the above studies have used a range of methodologies in order to assess HIV prevalence rates in prisons. Significant lessons have been learned regarding the advantages and disadvantages of each method, their validity, and their implications for the selection of samples, and the willingness of inmates to participate (Bird and Gore, 1994). On the other hand, the diversity of methods used across the studies and the specific pattern of drug use identified within prisons (i.e. less injection, but more sharing, mainly due to the limitations prison geography places upon sharing networks) may have contributed to relatively low seroconversion rates among prisoners (McKee and Power 1992; Gill *et al.*, 1995). In any case, the above mentioned seroprevalence rates stress the importance of ongoing surveillance of incarcerated populations for blood-borne transmissible virus infections and associated risk factors, as well as the urgency of educational and prevention activities (Bird and Gore, 1994).

Nevertheless, it has been stressed that among prisoners, seropositivity levels *per se* do not say anything about the method of HIV transmission, as infection may have occurred due to HIV risk behaviours enacted prior to imprisonment, and transmission in prison is only likely to occur if high risk behaviours are carried out while in prison (McKee

and Power, 1992). Furthermore, agencies like the Centre for Disease Control, the Council of Europe and the World Health Organisation have highlighted the key aspects of the problem of HIV in prisons: the relevance of the proportion of IDUs among AIDS cases, the high prevalence of HIV-1 infection among some populations of IDUs, and the high and increasing proportion of IDUs in prison populations (Abeni *et al.*, 1998). It therefore seems crucial to focus on the study of risk behaviours among injector inmates, both prior to imprisonment and while incarcerated, as well as the correlates of such behaviour.

2.2.3.2 ...Knowledge

As shown in the first section (2.1) of this Chapter, it was widely recognised that HIV risk behaviours, such as sharing injecting equipment, unprotected sexual practices and tattooing, occur within prison settings (Dolan, 1997; Jürgens, 2000) and that in order for prisoners to protect themselves from contracting AIDS, they should reduce these behaviours (Power *et al.*, 1993). However, during imprisonment, only drug related behaviour was considered by far the major risk factor for HIV infection (Gore and Bird, 2000). Although the relevant reports have indicated an overall reduction in injecting during imprisonment, compared with outside (Power *et al.*, 1992; Shewan *et al.*, 1994; Malliori *et al.*, 1998a; Jürgens, 2000), it was also confirmed that those who continue injecting while in prison seemed to take more risks, by sharing injecting equipment more frequently (Jacob and Stöver, 2000). From this perspective, it seems that prisons act as a modifier of drug using behaviour both in a positive direction (i.e. by reducing the number of injections) and also in a negative direction (i.e. by increasing the rate of sharing among those who continue to inject) (Shewan and Davies, 2000). In the context of a realistic harm reduction policy applied in the prison environment, inmate's appropriate knowledge of the dangers associated with HIV risk behaviours is thought to be an essential requirement for

behavioural change (Power *et al.*, 1993, Davies and Shewan 2000). Nevertheless, compared with the amount of research on HIV/AIDS-related knowledge conducted in the general population (see Peruga and Celentano, 1993 for review; Roberts *et al.*, 1994) or among IDUs at liberty (Longshore *et al.*, 1992; Soskolne and Maayan, 1998) – indicating high levels of knowledge, but also confusion in specific topics - there are relatively few published studies addressing this issue in adult prison populations (O' Mahony, 1989; Conolly, 1989; Turnbull *et al.*, 1991; Zimmerman *et al.*, 1991; O' Mahony and Barry, 1992; Power *et al.*, 1993; 1996; Delorne *et al.*, 1999) or in juvenile offenders (Slonim-Nevo, 1992/93; Robertson and Levin, 1999). In a study of 38 HIV positive prisoners in Ireland, O' Mahony and Barry (1992) used the Knowledge of AIDS at Risk Behaviour Scale (Kelly *et al.*, 1989) in order to test inmate knowledge of the type of behaviours that can put people at risk of HIV infection. Based on their results, these authors concluded that considering the status of their sample, the knowledge of at risk behaviours was unsatisfactory. Slonim-Nevo (1992/93) interviewed fifty-six Israeli adolescents under the care of probation officers and found that a substantial proportion of the sample demonstrated a lack of knowledge on issues relevant for AIDS prevention. On the other hand, in a comprehensive study of a representative sample of 559 inmates in Scottish prisons – perhaps the only one of its type in prisons - Power *et al.*, (1993; 1996) showed that inmates were very knowledgeable on specific topics. They were aware of basic high risk sexual and drug behaviour, and of most methods of reducing the risk of transmission. Nevertheless, a considerable proportion of Scottish prisoners showed less understanding about issues concerning the HIV antibody test, while many of them thought that sharing items of injecting equipment, like cooking-up spoons, as a safe practice. Additionally, in the same study it was shown that high levels of knowledge were associated with a history of drug offences, having had an HIV test, knowing someone who had had the HIV test, knowing someone who was HIV

seropositive, a history of injecting drug use and having sexual partner who was also an injecting drug user (Power *et al.*, 1996).

What stems from the results of the above studies are contradictory conclusions regarding the level of HIV/AIDS knowledge among the inmate populations studied. The differences found could be attributed: a) to different sample size and inmates' serostatus; b) to the measures used to assess HIV/AIDS knowledge i.e. Power *et al.* (1993, 1996) used a large sample of inmates (mostly sero-negative) and a questionnaire with unknown validity and reliability. On the other hand, O' Mahony and Barry, (1992) used a small sample of known HIV-positive prisoners and a standardised Scale, in order to assess knowledge level; c) to different cultural backgrounds of the population studied. Nevertheless, one consistent finding, which has been reported, refers to a high level of knowledge of the basic facts of AIDS (e.g. AIDS is transmitted through unprotected sex and needle sharing). This fact is also confirmed by other – mostly American studies - (Gaughwin *et al.*, 1990; Lurigio *et al.*, 1992). On the other hand, significant levels of ignorance or confusion on other issues (e.g. HIV antibody test, HIV transmission through casual contact) are also consistently presented in the literature.

Comparing the inmates' and the general public's knowledge, in an early American study, juvenile offenders showed high levels of knowledge, similar to school students (DiClemente *et al.*, 1991). On the other hand, in a study among adult inmates (n = 370) in France (Delorne *et al.*, 1999) average knowledge score was lower among inmates than in the general population. At the same study, there was no difference in knowledge scores between IDUs and non-IDUs inmates. Research also has indicated that HIV/AIDS knowledge increased after the implementation of an education programme, targeted either for IDUs at liberty (Dengeleri *et al.*, 1990) or for inmates (Lurigio *et al.*, 1992; Vaz *et al.*, 1996).

2.2.3.3 ...Attitudes

Discrimination against people with HIV/AIDS has been registered widely in all parts of the world. During the first decade of the epidemic - the so-called period of moral panic, people's attitudes could be characterised as "hysterical" (Weeks, 1989). HIV infected persons lost their jobs and homes, children with AIDS were denied access to public schools, and lesbians and gay men were not served in restaurants (Fineberg, 1988; Weeks, 1989). Subsequently, while earlier fears had diminished, prejudice and discrimination against people with HIV/AIDS continued to be widespread (Weeks, 1989).

The above are confirmed by empirical research. Ioannidi and Haeder (1998) report cross-national comparisons of discriminatory attitudes in Europe in relation to four topics: a) segregation, b) AIDS transmission and medical professionals, c) management of information about seropositivity, and d) prosecution of infected persons for not warning their partners. The relevant data derived from people aged 18-49 years old, in the context of four European surveys, namely Athens-Knowledge, Attitudes, Beliefs and Practices (KABP) (1989) (N = 952), Belgium (1993) (N = 2,789), France-KABP (1992) (N = 1,320) and East Germany (1990) (N = 822). Results from this comparison study showed that there was a greater tolerance of, and less negativeness towards infected persons, than reported in the first years of epidemic. On the other hand, Europeans from these countries preferred to keep a distance between them and infected medical professionals. Additionally Europeans did not recognise the right of people with HIV/AIDS to keep their serostatus secret. Researchers identified two factors influencing the degree of tolerance for infected persons. First, was the nature of the relationship between the interviewee and the infected person: the closer the relationship, the more discriminatory attitudes were expressed. Secondly, was the educational level, with the less educated being more likely to have discriminatory attitudes. The researchers concluded that "although people

currently appear to be tolerant and liberal in their attitudes towards people with HIV/AIDS, discriminatory attitudes still exist" (Ioannidi and Haeder, 1998, p. 373).

The study of people's attitudes towards AIDS and those living with HIV/AIDS has received increasing attention among researchers worldwide. Välimäki *et al.* (1998), in their review of the relevant research (111 papers) noted that research interest had increased rapidly during the 1990s, and that most of the work in the field had been based on empirical research and carried out in the U.S.A. According to this review, the focus of attention had been on students and their attitudes to HIV/AIDS and sexual behaviour, while at the same time, the attitudes of health care personnel and students had received more and more attention. These authors also point out that fear, misconceptions and negative attitude to people with HIV/AIDS remained common among the general public, students and health care professionals. Gender, educational level, age and level of AIDS-related knowledge were identified as the factors associated with HIV/AIDS attitudes of the general public and students. Finally, Välimäki *et al.*, (1998) stressed the fact that these attitudes have been highly resistant to change. Among IDUs, research has focused on their attitudes towards HIV/AIDS prevention measures e.g. education and information campaigns (Richardson, *et al.*, 1994), or towards safer sex (Orlandi, 1991).

As mentioned above (section 2.2.2), in 1985, panic reactions and violence among both prison staff and inmates resulted in serious disruption in correctional facilities in both Europe and North America (Harding, 1987; Harding and Schaller, 1992a). Although these phenomena might be partly attributable to overcrowded conditions within prisons, insufficient staff and lack of programs and activities (Harding and Schaller, 1992a), inmates' and staff's negative attitudes towards AIDS and the people infected with the HIV were thought to be major contributors to such adverse reactions. Nevertheless, the amount of published research of prisoners' attitudes is minimal, compared to the amount of

published literature regarding the attitudes of other population groups. Some of the relevant research done in prisons has focused on young offenders. O' Mahoney (1989) found that a group of 43 Irish young offenders tended to stigmatise AIDS patients significantly more than did comparison groups of police recruits, drug users and university students. DiClemente *et al* (1991) identified differences in attitudes towards people with AIDS among 113 incarcerated youth and a public school sample of 802 students in San Francisco, with students being more liberal than incarcerated youth. Slonim-Nevo (1992/93) in his study of fifty-six Israeli adolescents under the care of probation officers, found that respondents demonstrated confused beliefs and attitudes in areas that were conducive to prevention. Nevertheless, O' Mahoney's (1989) and DiClemente's (1991) studies are of limited value as the investigators used only two attitude items, while in the study in Israel the focus was primarily to investigate attitudes towards prevention. In a reported evaluation of the AIDS education programme for prisoners in New South Wales, Australia, Conolly (1989) mentioned that 77% of 193 prisoners supported the segregation of HIV seropositive prisoners, and the compulsory blood testing for HIV in prison. In another Australian study, Close (1990) interviewed 461 prisoners, officers and staff from seven prisons within the Perth metropolitan area and reported similar results. The vast majority of people in all groups (at least 84%) in Close's study claimed that AIDS prisoners should be separated from other prisoners. Delorme *et al.* (1999) evaluated attitudes of adult inmates toward HIV infection (N = 370) in one institution in France and compared them with the attitudes of the general population (ACSF², 1994). They found that the average score of tolerance towards HIV infected people was lower among inmates than in the general population. Furthermore, non-IDU inmates of the sample were less tolerant toward HIV infected people than were IDU inmates. Nevertheless, this study took place in

² Analysis of Sexual Behaviour in France

only one correctional institution, and therefore has limited value as far as the generalisability of the results to the wider French inmate population.

To the best of my knowledge, the only detailed survey on attitudes in prison to date is reported by McKee *et al.* (1994; 1995). They investigated attitudes towards various issues of HIV/AIDS in a representative sample of 559 inmates and 591 prison staff sampled from eight Scottish prisons. Researchers found that both prisoners and staff held liberal attitudes regarding personal and social contact with people with HIV/AIDS, while both groups expressed conservative attitudes in relation to screening of individuals for HIV. Among prisoners, McKee *et al.* (1994) showed – in line with the above mentioned French study (Delorne *et al.*, 1999) that IDUs, compared to non-IDUs were more positive toward personal and social contact with people with HIV/AIDS and more supportive of social measures to combat HIV/AIDS, such as the provision of free medical care and condoms, and the supply of free needles to drug users.

2.2.3.4 ...Perceived risk

From an epidemiological point of view, the risk for acquiring a disease is the probability that a subject belonging to a specific group (i.e. IDUs) may develop a certain disease (i.e. AIDS) over a certain period of time (Magnus, 1998). Nevertheless, in real world, there are differences on how people estimate this probability. Being unrealistically optimistic (Weinstein, 1980, 1984), individuals may think that their personal probability of getting a disease is smaller than the probability of other people getting the same disease (i.e. Nader *et al.*, 1989; Herlitz and Brorsson, 1990). Individuals may also think that they themselves are more vulnerable to a specific disease and not to another, although, objectively, the probability of getting one disease of the two is similar. It seems that individuals' values, their appraisal of costs and gains, and the manner in which they

attribute blame are co-determinants of how people perceive the risk of particular events (Douglas, 1992). It has also been argued that lay people, unlike the professional risk analyst, use more intuitive tools and heuristics, rather than prevalence rates, in order to estimate risk (Henson *et al.*, 1998). The above are indicators that risk perception is socio-culturally established (Markova *et al.*, 1997).

Perceived risk was considered a necessary but not sufficient prerequisite for behaviour change (Henson *et al.*, 1998) and a huge amount of research has provided support to this effect (Kowalewski *et al.*, 1997). Generally speaking, the basic idea is that if people perceive themselves as at great risk for getting a disease, they will adopt precautionary actions in order to protect themselves. This idea has implicitly subsumed risk perception under the cognitively and rationally based perception process (Markova *et al.*, 1997) and has been operationalised as 'perceived susceptibility' in the Health Belief Model (Becker, 1974) and 'perceived vulnerability' in the Protection Motivation Theory (Prentice-Dune and Rogers, 1986). These social cognition models adopt a staged understanding of behavioural change, that is knowledge leads to risk perception, which leads to behavioural change. Nevertheless, the opposite may also be the case. A person with a heightened risk perception may lack the motivation of adopting protective actions, as they may have the belief that they will become ill, no matter she does (Mondanaro, 1987).

Since AIDS appeared, researchers and educators have focused their attention on attempts to influence people risk perceptions. Initially, following the above rationale, AIDS intervention programmes targeted at-risk populations (i.e. adolescents), assuming that making people more knowledgeable on AIDS transmission would lead to heightened perceptions of risk and eventually to the adoption of protective behaviours (e.g. condom use) (Henson *et al.*, 1998). Nevertheless, these expectations were not confirmed by

empirical research (Strunin, 1991). A significant amount of research has also targeted IDUs. Early research among male IDUs and their partners (Coleman *et al.*, 1988; Corby *et al.*, 1991) indicated that members of these groups were able to apply their understanding of the risk factors of HIV infection, but their perception of risk had no influence in either drug related or sexual behaviour. This was confirmed by later studies (Crisp *et al.*, 1993; Kelaher and Ross, 1992). The results of the above surveys showed that the sense of personal risk for HIV infection was discordant with actual behaviour. Nevertheless, in total, empirical research on the role of perceived risk in the adoption of health protective behaviours (risk as predictor variable) has produced mixed and inconclusive results (Gerrard *et al.*, 1996), reflecting methodological and theoretical deficiencies in the body of literature (Kowalewski *et al.*, 1997). In any case it seems that the role that risk perception plays in promoting or maintaining protective behaviour change is still not well understood (Henson *et al.*, 1998). Especially for IDUs, the above findings revealed that although they are people at objectively high risk for HIV infection, they seem to underestimate their own personal risk.

A further enormous body of research has followed another direction. It has focused on perceived risk as an outcome (i.e. what factors could predict perceived risk?) (Henson, *et al.*, 1996). In an early but quite comprehensive study of this type in a sample of the general population (N = 1,540 adults aged 18 to 60 years), Prohaska *et al.* (1990) showed that the following five heuristic factors predicted perception of risk for AIDS: AIDS sexual risk practices; moral evaluations of people with AIDS; emotional response to AIDS, that is worry about one's health and fear; protective actions in response to AIDS; and demographic characteristics. On the other hand, results of this study showed that neither the knowledge of AIDS facts, nor knowing someone with AIDS influenced people's perception of risk.

However, Prohaska's study was based on a general population sample. This posed a limitation, as the rates of high-risk behaviours (i.e. needle sharing, or unprotected sexual intercourse) in the general population may be low for statistical inference (Henson *et al.*, 1998). In an effort to fill this gap, Henson *et al.* (1998) examined the determinants of perceived risk for getting HIV by interviewing 958 adult Los Angeles arrestees who reported any lifetime injection drug use. They used a single item to measure perceived self-risk: this was in reference with others risk of getting AIDS. Results of the regression analysis showed that being celibate during the last year, having an IDU sexual partner, having more than 20 sexual partners and engaging in sex while under the influence of drugs were positively related to a greater perceived risk. Condom use was also associated with perceived risk although not at a significant level. From the drug use measures, none was significantly associated with perceived risk. Among psychosocial measures considered, those who knew someone with AIDS and those who had been tested for HIV antibodies perceived themselves more at risk. Based on these findings, the authors concluded that many IDUs from their sample were underestimating their risk for getting AIDS, by using intuitive tools in order to assess self-risk. Additionally, it seemed that perceived risk in some cases appeared discordant with actual behaviour, suggesting that optimistic biases might affect estimates of risk.

Another direction on risk perception research investigated perceived risk as a predictor variable. In two studies of this type with University students, Otten and Van der Pligt (1992) investigated the mediating role of risk appraisal in the relation between past and future behaviours. More specifically, they explored 1) the relationship between past behaviour and risk appraisal; 2) the relationship between risk appraisal and future behaviour; 3) the effect of both past behaviour and risk appraisal on future behaviour. The basic hypothesis tested was that previous risky behaviour would result in a heightened risk

appraisal, which in turn would stimulate protective future behaviours. Results of both tests showed: i) past behaviour was strongly related to future behaviour. Those who behaved in a dangerous manner in the past, intended to do the same in the future. ii) Past behaviour was generally associated with risk appraisal. More risky behaviours in the past resulted in higher risk appraisals. iii) Future behaviour was predicted by risk appraisals, but in a positive direction. A higher risk appraisal corresponded with higher expectations to engage in risky behaviours. Nevertheless, this effect disappeared when past behaviour was introduced in the analyses. This final result indicated that the mediation hypothesis (risk mediates between past and future behaviour) was not supported in these studies, as the effect of risk appraisal on future behaviour reflected only the effect of past behaviour on both variables.

Finally, reported findings suggested that from a psychological point of view, within risk perception, two kinds of evaluation may occur, one predominantly cognitive and one predominantly emotional (McKee *et al.*, 1995). For example, Prohaska *et al.* (1990) identified 'worry/concern' as one of the predictors of risk perception. An individual may cognitively comprehend that he or she is at risk for an illness, and yet be emotionally unconcerned (Markova *et al.*, 1997). The opposite may also happen. Someone may worry about a health threat, but feel not at all at risk from that threat. It has been stressed that clarification of the exact relationship between these two elements of evaluation would promote risk perception research (McKee, *et al.*, 1995). To the best of my knowledge, the most comprehensive study regarding the relationship between the emotional and cognitive elements of HIV risk perception among prisoners was conducted in Scotland. Power *et al.* (1994) interviewed 559 inmates from eight Scottish prisons to assess their self perceived risk of HIV infection prior to imprisonment and during imprisonment. Results showed that a larger proportion of inmates (20%) thought of themselves as being at high risk of becoming

infected with HIV prior to imprisonment, compared with 7% of those who thought themselves at high risk during imprisonment. Results also revealed a number of factors associated with inmates' perceptions of high risk prior to imprisonment: previously being charged and sentenced with a drug offence, having used injected drugs and shared needles in and out of prison, having had an HIV test, knowing someone with HIV infection, having had an injecting drug user as a sexual partner, and having had more than 2 sexual partners one month prior to imprisonment. Regarding high-risk perceptions during imprisonment, results of this study identified only one factor: having had two or more sexual partners, one month prior to imprisonment. Additionally, results showed no relationship between risk perceptions and adoption of safe practices (i.e. condom use and sterilisation of equipment), both prior to imprisonment and during imprisonment. Based on these findings, the authors concluded that the majority of Scottish inmates were able to apply their understanding of the risk factors for HIV infection to themselves, although this awareness did not influence the adoption of safe practices.

In another report from the same study (McKee *et al.*, 1995) it was mentioned that the inmates perceived the outside world as a higher-risk environment than prison. Additionally, prisoners' concern towards HIV/AIDS was greater than perceived risk of HIV/AIDS, and concern was associated with a number of demographic variables, like age (negative association) and penal variables, like sentence length, time served of current sentence and total time served in prison (negative association). Finally, a high level of concern with HIV/AIDS was associated with having injected drugs.

2.2.4 Relevant Greek Research re HIV...

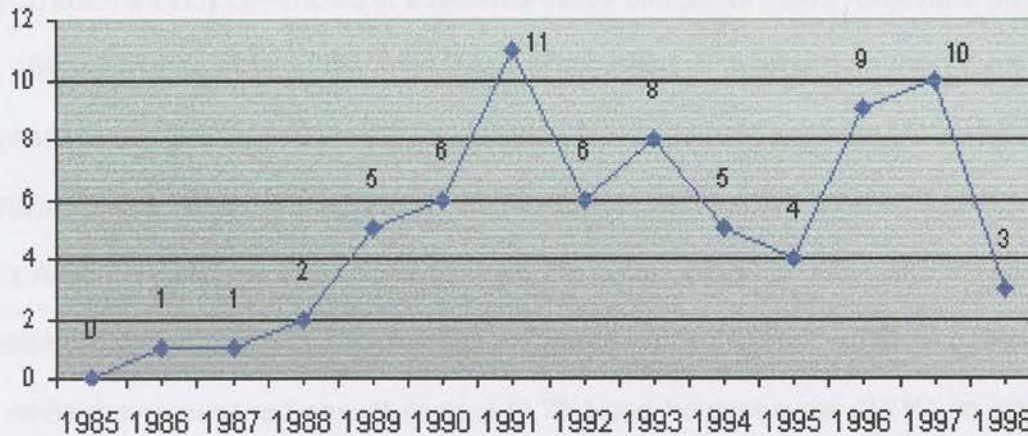
2.2.4.1Prevalence

From an epidemiological perspective, the pattern of AIDS transmission in Greece

varies considerably from the 'Mediterranean Model' (Agrafiotis 1991), which also differs significantly from that which appears in Europe as a whole. Whereas the majority of HIV seropositive cases in Italy and Spain are associated with IDU, the majority of cases in Greece are associated with homosexual activity with an increasing trend towards spread among the heterosexual community and a low percentage among IDUs (Agrafiotis, 1991; Hellenic Centre for Infectious Diseases Control, 2000). The cumulative number of HIV+ adult persons (including AIDS cases), reported in Greece to 30 June 2000 comes up to 5,120. A total of 2,062 persons (40.3%) were infected through homosexual intercourse, while only 172 individuals (3.4%) acquired the virus via injecting drug use (Hellenic Centre for Infectious Diseases Control, 2000).

The prevalence of injecting drug use appears lower in Greece than in many other European countries (Malliori *et al.*, 1994). Although according to Greek research data, the large majority of IDUs have previously engaged in high risk behaviours such as needle sharing and unprotected sex (Kokkevi *et al.*, 1990; Malliori *et al.*, 1994; Kokkevi *et al.*, 1992; Kornarou *et al.*, 1999) the prevalence of HIV seropositivity and AIDS within this group are relatively low (below 3%) (Papaevangelou, *et al.*, 1991; Malliori *et al.*, 1994; 1998b). According to the aggregated data sent to the Greek Focal Point by the Epidemiology Department of the Centre for the Control of AIDS and STD's, from 1985 up to 1998, there had been 1,870 AIDS cases, of whom 72 (3.9%) were intravenous drug users. The yearly distribution of new AIDS cases among drug users presented an increasing trend from 1986 (N = 1) to 1991 (N = 11), followed by a decrease since then (Figure 2.4). During 1998 there were 93 AIDS cases reported, of whom 3.2% (3 people) were IDUs (all males), with an average age of 34 years.

Figure 2.4: AIDS cases in intravenous drug users (1985-1998)



Source: Centre for the Control of AIDS and STD's, 1999.

Based on information coming from Athens and Thessaloniki Substitution Programs of Organisation against Drugs (OKANA), from the total of 980 users who started treatment between 1996 and 1998, 2.6% were HIV seropositive.

Regarding HIV prevalence among Greek prisoners, the latest research among IDUs in two correctional institutions (Malliori *et al.* 1998a) reported a prevalence rate of 0.19% among the group studied, thus confirming the previously identified low HIV prevalence rate among Greek IDUs (Papaevangelou *et al.*, 1991). Nevertheless, there is evidence that imprisonment may be a particular risk factor for Greek IDUs as has been shown for IDUs in other European penal populations (Muller *et al.*, 1995; Dufour *et al.*, 1996; Taylor *et al.*, 1995).

2.2.4.2 ... Knowledge

As mentioned in Section 2.1.7, until recently, the pattern of social research on AIDS in Greece had been to study knowledge levels and social perception of AIDS threat

in the general population through 'Knowledge, Attitudes, Behaviours and Practices' (KABP) studies (Agrafiotis *et al.*, 1991; Gnardellis and Agrafiotis, 1992; Chliaoutakis *et al.*, 1993). In such a study conducted in a representative sample of 1,200 Athenians (Agrafiotis *et al.*, 1991) it was found that the knowledge of the population regarding the evolution and the dynamics of AIDS was relatively satisfactory. Nevertheless, a number of contradictions and inaccuracies were also apparent. For instance, with regard to the question "What causes AIDS?" Athenians seemed to confuse the nature of the disease with the means of transmission. Only 23.4% of the sample answered correctly, that AIDS is caused by a virus, while they mentioned sexual contact (4.7%) and homosexuals (2.7%) as causes of AIDS. Gender of the respondents, their age and social class, appeared to define the differences in answers. For instance, among those who answered the above question correctly, there was a statistically significant difference in the proportion of correct responses between men (37.1%) and women (15.7%); between age groups 23-30 (32.5%) and 51-64 (4.4%); and between higher and lower socio-economic status (28% and 19.4% respectively). With regard to high-risk modes of transmission, 26.3% of the whole sample thought that there was a great deal of danger when a man has sexual contact with a woman. Significantly more women (36.3%) than men (15.9%) thought this specific behaviour as of very high risk.

In a prospective study on health education regarding AIDS in the Greater Athens area, Chliaoutakis *et al.* (1993) collected information concerning knowledge and attitudes about AIDS from a sample of 1,552 residents of the greater Athens area. The results indicated that, in general, the population was moderately well informed about AIDS. The population groups who were best informed were females, those with a higher level of education and a longer period of urban residence, and those in the occupational category 'merchants/sales personnel'.

In a comparative KABP study among 153 Greek and 113 British first year University students (Koulierakis *et al.*, 1994) it was found that both groups showed high levels of HIV/AIDS knowledge, with British students being significantly more knowledgeable than Greeks. Nevertheless, some misconceptions, mainly regarding the methods of HIV transmission and the interpretation of an HIV antibody test persisted, especially among Greek students.

In the context of a WHO Multi-City Study on Drug Injecting and Risk of HIV infection, Malliori *et al.* (1994; 1998b) studied 400 Greek IDUs (47.8% of them were recruited from two correctional institutions), using a standardised protocol. Results showed that 76% of the Greek sample of injectors knew that persons with HIV-1 could look well, while almost 90% of them answered correctly on questions regarding the basic methods of HIV transmission.

As can be seen, until now, no detailed study on AIDS related knowledge has been conducted exclusively in the prison environment in Greece. Additionally, in the first two of the above-mentioned Greek studies (Agrafiotis *et al.*, 1991; Chliaoutakis *et al.* 1993), although a detailed questionnaire was used in order to investigate different areas of knowledge, only the general population was studied. In Malliori's (1994; 1998b) studies, although it included a reasonable percentage of incarcerated IDUs, the researchers used a very limited number of HIV/AIDS knowledge questions (e.g. 3 questions), thus this issue was investigated only superficially. Furthermore, the sample of Malliori's study consisted only of IDUs, excluding non-IDU Greek inmates. In Koulierakis's *et al.* (1994) comparative study, only seven knowledge items were used, thus a detailed investigation of HIV/AIDS knowledge did not occur.

Given the cultural differences in the ways in which HIV has been transmitted and the apparent differences among prison populations in HIV/AIDS related knowledge, it is

important to have an accurate representation of AIDS knowledge among Greek prisoners. This is especially important if HIV/AIDS education programmes are to be appropriately targeted to meet the needs of this potential high-risk population. In addition, up to date assessments of knowledge levels among target groups is necessary as the amount of knowledge regarding HIV/AIDS may alter as the pattern of the epidemic changes.

2.2.4.3 ...Attitudes

Within the context of AIDS-related Knowledge, Attitudes, Beliefs and Practices (KABP) studies conducted in Greece (Agrafiotis *et al.*, 1991; Gnardellis and Agrafiotis, 1992; Ioannidi and Haeder, 1998; Chliaoutakis *et al.*, 1993; Koulierakis *et al.*, 1994), attitudes of the general population and of specific parts of the population were investigated. In Athens KABP study (Agrafiotis *et al.*, 1991; Gnardellis and Agrafiotis, 1992; Ioannidi and Haeder, 1998) (N = 1,200) it was found that Athenians expressed, in general, liberal and tolerant views regarding people with AIDS, while they didn't accept that one can battle AIDS by adopting restrictive measures. Nevertheless, less positive attitudes were also expressed. For example, in the case of a doctor who treats AIDS patients or in the case of an HIV-infected doctor/dentist, respondents preferred to keep a distance between themselves and medical professionals (i.e. 60% said that they would not continue visiting a doctor who accepted AIDS patients, 69.4% would not continue visiting an HIV-infected doctor). Compared with other Europeans, Athenians appeared less positive (i.e. the equivalent percentages for French were 4.6% and 18.7%, respectively) (Ioannidi and Haeder, 1998). Additionally, among this sample of Athenians, the most educated persons expressed the most liberal attitudes. In a prospective study on health education about AIDS in the Greater Athens area, Chliaoutakis *et al.* (1993) collected information concerning the knowledge and attitudes about AIDS from a sample of 1,552 residents. The

results identified three attitudinal categories, which could be characterised as discrimination, stigmatisation, and fear of those affected by AIDS. These factors were linked to (1) approval of the enforcement of special measures, (2) stigmatizing of persons, behaviours and districts and (3) fear that AIDS comprises a major social threat. Results of this research also revealed that stigmatisation attitudes were associated with a low level of knowledge. In a comparative KABP study among Greek and British University students (Koulierakis *et al.*, 1994) it was found that British students were more liberal and tolerant in their attitudes than Greeks, who, in general, presented rather confused and contradictory opinions towards AIDS patients.

In the above mentioned three Greek studies, although attitudes were investigated through multiple items, samples were recruited only from the general population and University students. Until now, no detailed study on attitudes towards AIDS and HIV infected people has been conducted in Greece, among a prison population. Nevertheless, prisoners – as part of the general population - may have heard about AIDS before their entrance to prison and may hold particular attitudes towards the disease itself and people with HIV/AIDS. Furthermore, due to the structure of the Greek penal institutions and to overcrowding, inmates may need to share cells, toileting and eating facilities, with other inmates. Additionally, research in Greece and worldwide has shown that the closer people perceive a person with AIDS and the more they are forced to share space with him/her, the more restrictive attitudes they tend to hold towards that person (Chliaoutakis *et al.*, 1990; Herlitz and Brosson, 1990; Ioannidi and Haeder, 1998). Given this situation, it is important to study inmates' attitudes towards different aspects of the AIDS epidemic (i.e. towards the disease itself, people infected with the virus, etc.). This may (1) identify stigmatising and ostracising trends among inmates, and (2) lead to specific measures in order to facilitate the management of the penal institutions. Furthermore, although

literature has shown that the attitudes held by people do not always lead to behaviour change, it is still crucial to be aware what inmates believe about specific measures of HIV prevention (i.e. condom use, needle cleaning), as these beliefs may to some extent determine their sexual and drug use practices.

2.2.4.4 ...Perceived risk

Studies on risk perception are scarce in Greece. HIV risk perception among Greek University students (N = 153) in comparison with British students' perceptions (N=113) was investigated by Koulierakis *et al.* (1994). In this study, an overwhelming majority of students (88.4%) were concerned about AIDS, but almost 85% of the sample thought it unlikely they could be infected by HIV within the next five years. On average, students thought their HIV self-risk as significantly lower than the risk of peers, while the majority seemed to underestimate the seriousness of AIDS (almost 70% considered AIDS a similarly serious disease to cancer and cardiovascular disease). Compared with British students, Greeks were significantly more concerned about their general health and perceived themselves as more at risk for AIDS.

Kokkevi *et al.* (1992) investigated 140 IDUs' risk taking behaviour in order to identify possible factors accounting for the low HIV prevalence rate among Greek IDUs. Regarding risk awareness, results of this study showed that less than half of IDUs estimated as high the likelihood of their being infected with HIV. Additionally, only 25% of them admitted to being quite or very concerned about the possibility of being infected by HIV. On the other hand, almost one third of IDUs were highly concerned about AIDS infection in members from their social environment, another third was moderately concerned, while the remaining 40% reported no concern at all. Nevertheless, risky sexual (not using condoms) and drug use (high rates of sharing) practices accompanied this low

sense of personal risk.

Until now, no study on Greek inmates' risk perceptions has been conducted. Studying inmates' risk perceptions and levels of AIDS concern constitutes a crucial step in the design of effective educational interventions within prisons. It is important to identify whether inmates are concerned about AIDS, or think themselves in danger of HIV transmission while in prison. Additionally, it seems important to know whether this sense of risk is related to potential high-risk behaviour adopted while incarcerated.

Summary

In this section I dealt with HIV prevalence in prisons and reviewed studies which investigated inmates' HIV/AIDS related knowledge, their attitudes to different aspects of AIDS, as well as their HIV risk perceptions and concerns about AIDS, both at a European and a Greek level.

There is evidence that in certain parts of Europe, the biggest concentrations of AIDS are found in the IDUs' group, although the comparative representation of the different categories varies enormously, with some European countries exhibiting the largest concentrations of cases attributed to homosexual contact while others show by far the largest proportion of cases attributed to injecting drug use.

With regard to rates of HIV infection among inmates worldwide, they appear to be much higher than in the general population and closely related to a) the proportion of prisoners who inject drugs prior to their incarceration and b) the rates of HIV infection among IDUs in the community. Early reports on HIV prevalence in European prisons (Harding, 1987) confirmed this hypothesis, showing extremely high rates of HIV infection and significant numbers of prisoners with AIDS, especially in countries from southern

Europe, for example, Spain and Italy. Nevertheless, in the years following that first review on HIV prevalence in prisons, many seroprevalence studies amongst prisoners were carried out both in Europe and the USA reporting significantly lower seroprevalence rates than of those reported by Harding (1987). As far as Greece is concerned, the pattern of AIDS transmission varies considerably from the 'Mediterranean Model' (Agrafiotis 1991), which also differs significantly from that which appears in Europe as a whole. Whereas the majority of HIV seropositive cases in Italy and Spain are associated with IDU, the majority of cases in Greece are associated with homosexual activity with an increasing trend towards spread among the heterosexual community and a low percentage among IDUs. The same pattern applies to the Greek prison population. Early and recent studies (Papaevangelou *et al.*, 1991; Malliori *et al.* 1998a) confirm the low (below 1%) HIV seroprevalence rate among inmates in Greek prisons.

A significant body of research has dealt with the investigation of inmates' HIV/AIDS related knowledge. Generally speaking, the results of these studies seemed to confirm the fact that inmates – internationally and in Greece – were well aware of the very basic facts of HIV transmission and prevention, while at the same time consistent knowledge gaps and misconceptions on specific issues exist (i.e. the HIV antibody test). Additionally, a consistent finding was the lack of association between levels of knowledge and adoption of safe practices.

Inmates' attitudes towards specific AIDS themes have also been investigated. Although to a lesser extent compared with the research conducted among segments of the general population. Generally, inmates held restrictive attitudes, at least when compared with groups of the "free" population. Nevertheless, in one of the most detailed surveys on attitudes among prisoners (McKee *et al.*, 1994; 1995), it was found that prisoners held liberal attitudes regarding personal and social contact with people with HIV/AIDS, although

conservative attitudes in relation to screening of individuals for HIV were also expressed.

Perceived risk has been considered a necessary but not sufficient prerequisite for behaviour change. Risk has been investigated both as a predictor and criterion variable. In the first case, empirical research on the role of perceived risk in the adoption of health protective behaviours (risk as predictor variable) has produced mixed and inconclusive results (Gerrard *et al.*, 1996), reflecting methodological and theoretical deficiencies in the literature (Kowalewski *et al.*, 1997). In some cases, research among specific groups at risk (i.e. IDUs) showed that members of these groups were able to apply their understanding of the risk factors of HIV infection, but their perception of risk had no influence in either drug related or sexual behaviour. In general, it seems that the role risk perception plays in promoting or maintaining protective behaviour change is still not well understood. Regarding the focus on perceived risk as an outcome (i.e. what factors could predict perceived risk?), research among IDUs (Henson *et al.*, 1998) showed that risk was underestimated by the subjects. Additionally, it seemed that perceived risk in some cases appeared discordant with actual behaviour, suggesting that optimistic biases might affect estimates of risk. Finally, research specifically targeted on inmates' risk perceptions (McKee *et al.*, 1995) has showed that inmates perceived the outside world as a higher-risk environment than prison. Their concern about HIV/AIDS was greater than perceived risk of HIV/AIDS. Concern about AIDS was associated with a number of demographic variables, (i.e. age, negative association) and penal variables (i.e. sentence length, time served of current sentence and total time served in prison (negative association)). Furthermore, a high level of concern about HIV/AIDS was associated with having injected drugs.

In Greece, almost no study has addressed the issue of HIV/AIDS related knowledge, attitudes towards AIDS issues and perceptions of HIV risk among inmates. Until recently, the pattern of social research on AIDS in Greece had been to study

knowledge levels and social perception of AIDS threat in the general population through 'Knowledge, Attitudes, Behaviours and Practices' (KABP) studies (Agrafiotis *et al.*, 1991; Gnardellis and Agrafiotis, 1992; Chliaoutakis *et al.*, 1993). Within this context, the present study constitutes the first detailed effort to fill this gap in the Greek research field of HIV/AIDS.

2.3 Social Cognition Models of Health Behaviours

2.3.1 Introduction

It has been suggested that a pre-requisite to attempts at behaviour change is an in-depth understanding of people's existing behaviour, their knowledge and attitudes (Hastings *et al.*, (1987). Nevertheless, although knowledge and attitudes may be necessary conditions for behaviour change, they are not sufficient (Basen-Engquist, 1992). The results of the AIDS research mentioned in the previous sections, mostly KABP (Knowledge-Attitudes-Beliefs-Practices) studies, indicate that although adequate knowledge and liberal attitudes might exist among the populations studied, this does not assure behaviour change. In fact, the results of most of the KABP studies revealed a disappointing lack of casual links between either popular beliefs or informed knowledge and attitudes on the one hand and people's reported behaviour on the other hand (Moatti *et al.*, (1997). In other words, despite the satisfactory level of HIV/AIDS knowledge achieved and the potential liberal attitudes held by individuals (inmates included), it is still unknown why some of these individuals are ready to change their sexual habits or drug-use-related behaviour and others are not. In such a situation, systematic theory-based models of health behaviours could be applied in order to understand the influence of variables such knowledge and attitudes on HIV preventive practices. The value of theoretical approaches in the fields of drug use and unsafe sexual behaviour (as means of HIV transmission) is that they provide a means to understand how decisions regarding these behaviours are taken (Finnigan, 1995). Additionally, in conducting theory-driven research in the area of AIDS, it may be possible to "...identify psychological constructs that are highly general determinants of AIDS-preventive acts across behaviors and populations of interest and that may be modified in applied interventions to promote such preventive

behavior" (Fisher *et al.*, 1995, p. 255).

During the last few decades there has been a gradual development of Social Cognition Models (SCMs). The models, describing what are the important cognitions and their interrelationships in the regulation of behaviour, have been widely applied to the understanding of health behaviours (Conner and Norman, 1996). These models reflect a confluence of learning theories derived from two major sources: the "Stimulus Response (S-R) theory, and the "Cognitive Theory" (Rosenstock *et al.*, 1988). The SCMs provide a basis for understanding the determinants of behaviour and behaviour change, while at the same time they indicate a list of important targets which interventions designed to change behaviour might focus upon if they are to be successful (Conner and Norman, 1996). Two broad types of SCMs have been described: (a) the attribution models, which are concerned with individuals causal explanations of health related events, and (b) those models, which examine aspects of people's cognitions in an effort to predict health behaviours and outcomes. Within the second group of models, belong the Health Belief Model (i.e. Rosenstock, 1966; 1974); the Health Locus of Control (i.e. Wallston *et al.*, 1978); the Theory of Reasoned Action / Theory of Planned Behaviour (i.e. Ajzen, 1991); the Protection Motivation Theory (i.e. Maddux and Rogers, 1983); and the Self-efficacy theory (i.e. Bandura, 1982). Four of the models, namely the Health Belief Model, the Health Locus of Control, the Health Value and the Theory of Planned Behaviour to be used in the present study will be described in detail in section 2.3.2, 2.3.3, 2.3.4, and 2.3.5 respectively. I will firstly present the theoretical basis of the models and then present a critical review of the relevant studies that have used the models in question, focusing on those studies among inmates' populations.

2.3.2 The Health Belief Model - Origins and description

The Health Belief Model (HBM) (Rosenstock, 1966; 1974; Becker and Maiman, 1975; Becker *et al.*, 1977) is perhaps the most frequently cited and researched of the psychosocial models of health related behaviour (Harrison *et al.*, 1992). It has been applied to a broader range of health behaviours and subject populations than other SCMs (Sheeran and Abraham, 1996). For more than four decades, the HBM has been used to explain change and maintenance of health behaviour and to guide health behaviour interventions (Strecher and Rosenstock, 1997).

The origins of the HBM go back to the 1950s, when a group of social psychologists in the U.S. Public Health Services were trying to explain the widespread failure of people to participate in disease detection or prevention programmes (Hochbaum, 1958; Rosenstock, 1966). Indeed, the first HBM application is attributed to Hochbaum (1958) who studied the uptake of tuberculosis X-ray screening (Rosenstock, 1974). Hochbaum (1958) showed precisely enough that a particular action to screen for a disease was strongly associated with perceived susceptibility to the disease and perceived benefits from that action (Strecher and Rosenstock, 1997). Following the initial application of the HBM to preventive behaviours, the model was then extended to identify the correlates of people's responses to symptoms (Kirscht, 1974) and their compliance with medical regimes (Becker *et al.*, 1977).

The HBM is a *value-expectancy* theory. Formulations of this type originated by cognitive theories (Lewin *et al.*, 1944; Lewin, 1951) that emphasised the role of the subjective expectations held by people to the behaviour. In this perspective, and in general terms, it is believed that behaviour is a function of (a) a person's subjective (positive or negative) evaluation of an outcome (value) and (b) his/her expectations that a particular action will lead to that outcome (expectancy). If this idea is put to the context of health,

then, it is assumed that a person's health behaviour is a function of (a) his/her desire to avoid illness or get well (*value*), and (b) his/her belief that a specific health action would prevent (or ameliorate) illness (*expectancy*). As originally proposed, the HBM postulated that the following four factors accounted for variation in health behaviour:

- ◆ *Perceived susceptibility* to illness: It refers to an individual's subjective perception of his/ her risk of contracting the illness. This factor includes the individual's acceptance of the diagnosis, and personal estimates of re-susceptibility (for cases of medically established illness) and susceptibility to illness in general (Strecher and Rosenstock, 1997).
- ◆ *Perceived severity* of the illness: This factor refers to one's subjective feelings concerning the seriousness of contracting an illness. It includes both the clinical consequences of the illness (i.e. death, pain) as well as the social consequences (i.e. disturbance of family life, work and social relations).
- ◆ *Perceived benefits*: Even if an individual feels susceptible to a disease and also considers it as serious, he/she may not take any preventive actions, yet. The particular health action chosen will be depended on individual's beliefs concerning the benefits or the effectiveness of the action in reducing the illness threat.
- ◆ *Perceived barriers*: This factor refers to one's beliefs on the potential negative aspects of a particular health action, that is, its costs.

It is assumed that a kind of a nonconscious cost – benefit analysis occurs, wherein the individual *weights* the action's pros (i.e. expected effectiveness) and cons (i.e. the action might be unpleasant, expensive, time consuming, e.t.c)

Perceived susceptibility and severity constitute one of the two aspects of individual's representations of health and health behaviour, the *threat perception*; while perceived benefits and costs constitute the second aspect, the *behavioural evaluation*,

(Sheeran and Abraham, 1996). According to the model, behaviour change is more likely when one's perceived susceptibility is high, when perceived severity is greater, and when the expected benefits are more than the expected barriers (Rimberg and Lewis, 1994).

In addition to the above four factors, the HBM includes the concept of *cues to action*, which are supposed to trigger health behaviour when appropriate beliefs are held. Cues to action may include individual's perceptions of symptoms, social influence or campaign messages. Furthermore, diverse demographic, socio-psychological and structural variables act as indirect mediators of self-protective behaviours through their influence on one or more of model's components (Brown *et al.*, 1991). Finally, an individual's general *health motivation* was included in a later version of the HBM (Becker *et al.*, 1977b). The Health Belief Model is graphically presented in Figure 2.5.

2.3.3 The Health Locus of Control - Origins

For many years psychologists have been interested in people's underlying beliefs regarding their health behaviour, placing special interest in individuals' perceptions of control over health (Norman and Bennett, 1996). As individuals' voluntary behaviours determine many health actions (both facilitative and deleterious), and many health education programs are predicted on an assumption of controllability, expectancies about control are important to be considered (Carlisle-Frank, 1991). It is generally assumed that those people who believe that they have control over their health, will be more likely to perform a range of health promoting behaviours (Wallston and Wallston, 1981). Additionally, it is believed that health control beliefs are determinants of not only health behaviours, but also of individuals' health status (Wallston, 1992). In the field of health promotion, people are encouraged to take responsibility for their health through the adoption of "healthy" behaviours (Norman and Bennett, 1996).

Most of the work in perceived control over health has been on beliefs about *the locus*, that is, the place of that control (Wallston, 1992). The Health Locus of Control (HLC) construct as a generalized expectancy that one's actions are instrumental to goal attainment was initially based on Rotter's (1954) social learning theory (SLT) (cf. Norman and Bennett, 1996). Being a *value-expectancy* theory, SLT proposed that behaviour will occur as a result of (1) an individual's expectancy that a particular behaviour will lead to a particular outcome and (2) the extent to which the outcome will be valued by the individual. Rotter, in his theory, identified two sets of locus of control beliefs, **internal** and **external**:

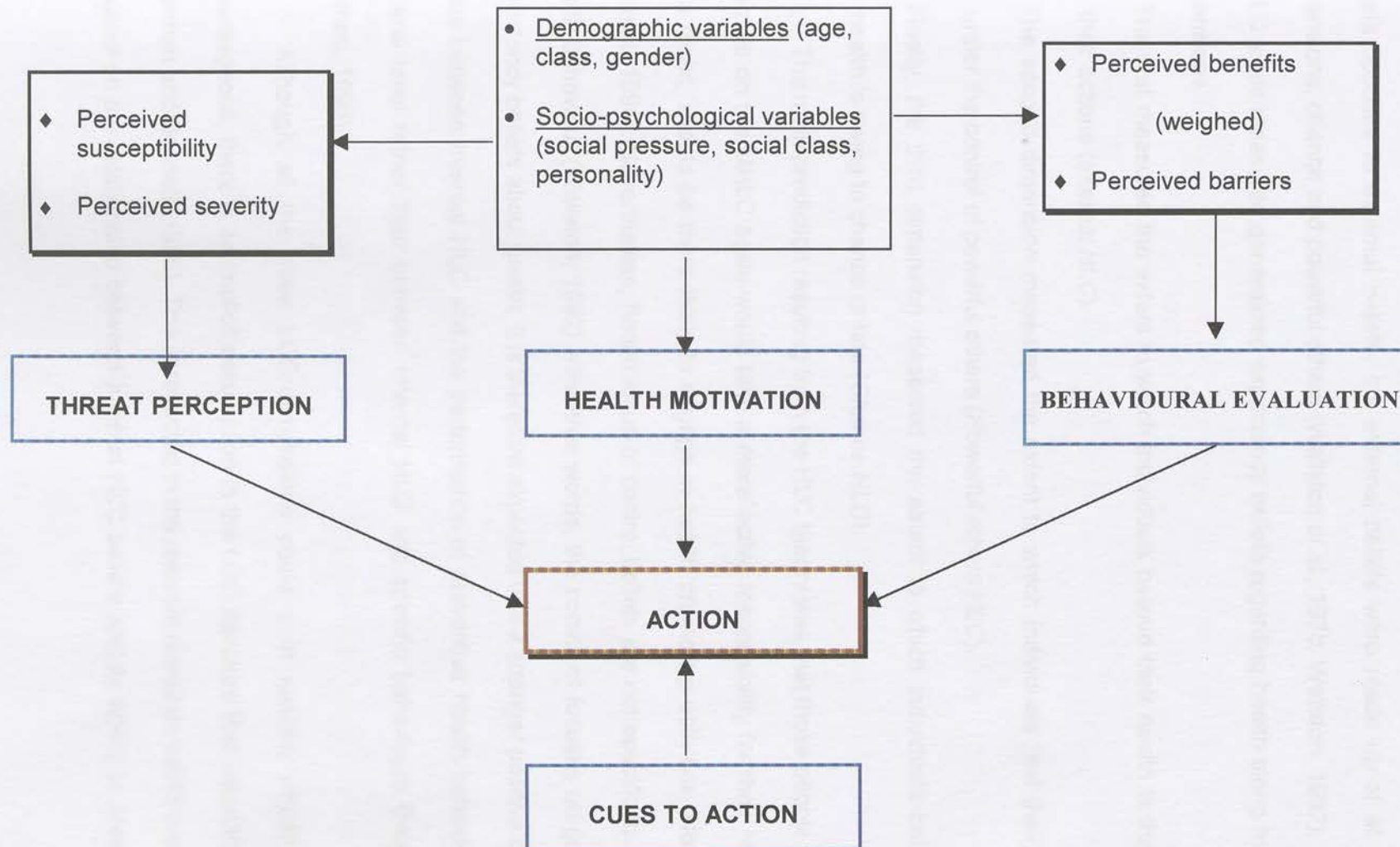
- ◆ '*Internals*' were thought to believe that positive or negative events are a consequence of their own actions and thereby under personal control
- ◆ '*Externals*' were thought to believe that positive or negative events are unrelated to their actions or behaviour, and thereby determined by factors beyond their personal control (Carlisle-Frank, 1991; Norman and Bennett, 1996).

Nevertheless, there has been evidence that the internal-external locus of control construct may predict an individual's behaviour in general, but is a poor predictor of specific behaviours (Carlisle-Frank, 1991). For this reason, specific scales have been developed in order to measure internality and externality on specific situations and environments. For example, the Prison Locus of Control scale (Pugh, 1992; 1994) was developed in order to investigate the potential relationship between locus of control and prisoners' adjustment. Applying the locus of control construct in health-related situations, Wallston *et al.*, (1976) developed the Health Locus of Control scale, as a measurement of the I-E dimensions specifically referred to the health domain. This shift of application of the theory to a specific domain (i.e. health) resulted from the fact that according to Rotter (1954), the locus of control construct could function on a general as well as a situation-specific level. Additionally Rotter (1975) argued that when an individual is experienced in a

given situation, situationally specific expectancies would be more powerful predictors of behaviours specific to that situation (cf. Norman and Bennett, 1996). Health locus of control beliefs (and the subsequent development of the relevant measurements [Wallston *et al.*, 1976; 1978]) was therefore "...thought of as a disposition to act in a certain manner in health related situations" (Wallston, 1992, pp. 185).

The instrument that was initially used to measure locus of control was Rotter's (1966) I-E (Internal-External) scale. Ten years later, Wallston *et al.* (1976) developed the original Health Locus of Control (HLC) scale as a unidimensional measure of people's beliefs that their health is or is not determined by their behaviour. On the one end of the dimension were those who believed that their health was determined by factors over which they had little or no control (health externals). On the other end, were those who believed that their health was determined by their behaviour (health internals). Early applications of the scales to research on health behaviours were successful, but in a later stage the scale was criticized on the grounds of the low variance explained, and also criticized for conceptualizing locus of control as a unidimensional construct (Levenson, 1974, cf. Norman and Bennett, 1996). These criticisms led Wallston *et al.* (1978) to develop the Multidimensional Health Locus of Control (MHLC) scale, perhaps the most popular locus of control measure in research on health behaviour (Wallston, 1992).

Figure 2.5 The Health Belief Model



2.3.3.1 The Multidimensional Health Locus of Control (MHLC) scale

Since the 1970s it has been shown that not only were internal locus of control beliefs opposite to external beliefs, but external beliefs were made up of at least two dimensions, chance and powerful others (Wallston *et al.*, 1978; Wallston, 1992). Thus, the MHLC scale measured generalized expectancy beliefs regarding health along these three dimensions:

1. The first measured the extent to which individuals believe their health is the result of their actions (*Internal HLC*).
2. The second dimension measured the extent to which individuals feel their health is under the control of powerful others (*Powerful others HLC*).
3. Finally, the third dimension measured the extent to which individuals believe their health is owing to chance or fate (*Chance HLC*).

The main prediction resulting from the HLC theory was that those people who were internals on the MHLC scale would take a more active responsibility for their health and, as a result, should be more likely to engage in health promoting activities (Norman and Bennett, 1996). Nevertheless, health locus of control beliefs are not specific to any given health-behaviour (Wallston, 1992) – in other words, the construct focuses on generalized expectancy beliefs about health. It is therefore expected that a stronger positive correlation exists between Internal HLC and the performance of preventive health behaviours on a general level rather than between Internal HLC and specific behaviours (Norman and Bennett, 1996).

Although all the three LOC dimensions could – in specific situations – be advantageous, there is an implicit assumption in the LOC literature that internality is good (Norman and Bennett, 1996). This is reflected in the relevant research, which has primarily focused on the relationship between Internal HLC beliefs and its ability to predict health

behaviours. The creators of the LOC construct (Wallston, 1992) have provided three reasons for that: (1) most people think of the Internal dimension when they have in mind to investigate the relationship between locus of control beliefs and health behaviour. (2) The Powerful others dimension rarely correlates significantly with health behaviour when samples of healthy people are investigated. (3) Chance HLC beliefs are conceived of as indicators of a lack of perceived control rather than an external LOC dimension. The MHLC scale and its psychometric characteristics are presented in detail on Chapter 6.

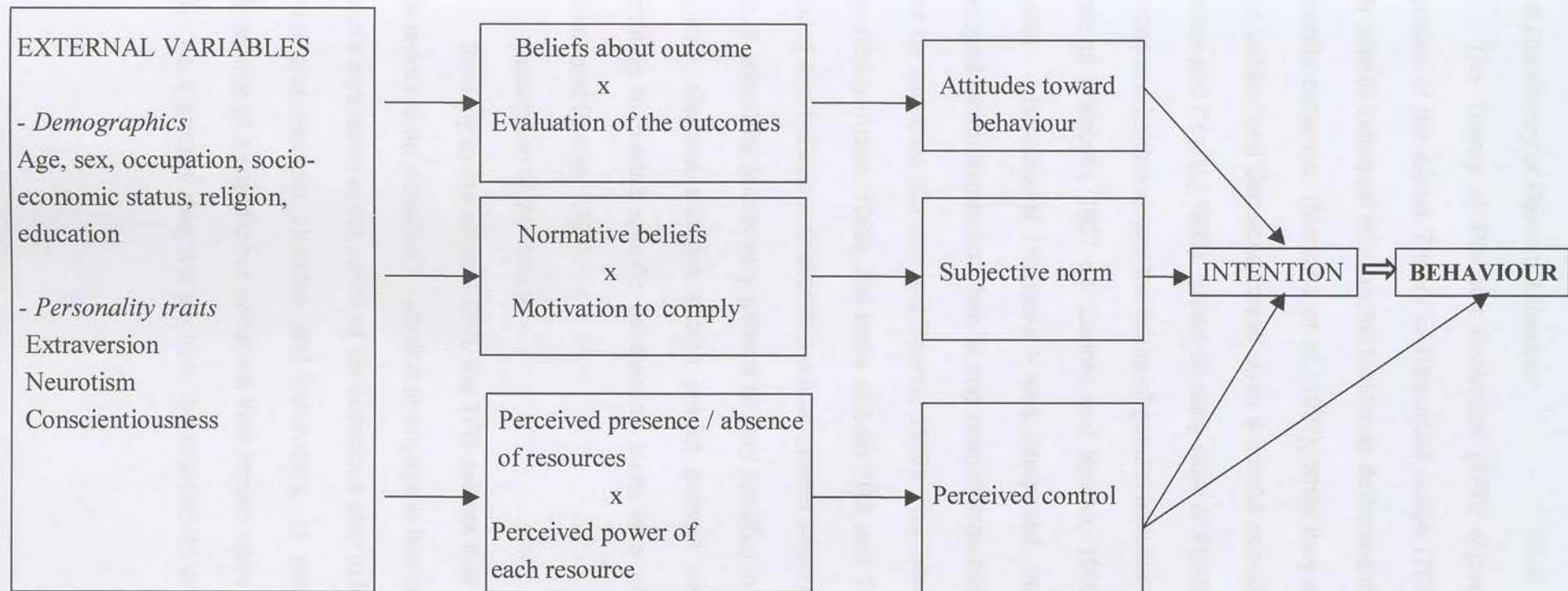
2.3.4 The Health Value

The potential relationship between locus of control beliefs and health behaviour makes sense only for people who value their health. Why should believing one can control one's health be associated with actually taking steps to maintain good health, if health is not particularly valued? (Lau *et al.*, 1986). From a methodological point of view, many tests of the HLC construct have failed to show its ability in explaining much variance of health behaviours because, *inter alia*, they did not pay attention to the Health Value variable (Lau *et al.*, 1986; Weiss and Larsen, 1990; Wallston, 1992). From a theoretical point of view, inclusion of Health Value construct is in line with the Social Learning Theory, which postulates that behaviour is a function of expectancy beliefs (i.e. HLC) and the value attached to certain goals (i.e. health). In this perspective, health value is considered a moderator of the relationship between locus of control beliefs and health behaviours (Wallston, 1991; 1992). As the Wallstons stated "There is no theoretical reason to expect health locus of control to predict to health behaviour, unless it is used in combination with a measure of health value" (Wallston and Wallston, 1981, p. 211). In the light of the above, it is predicted that internals who value their health should be the most likely to perform a range of health-related behaviours (Norman and Bennett, 1996).

Nevertheless, the majority of research on the HLC construct has not considered the value placed on health, because (1) Researchers have not understood the complexity of SLT. (2) They have assumed that all people uniformly place a very high value on health (health is considered as an overwhelmingly important value), despite the evidence that the value placed on health is not uniformly high among relatively healthy respondents (Ware and Young (1979, cf. Lau *et al.*, 1986). (3) They consider that there is not a reliable and valid method of measuring Health Value (Lau *et al.*, 1986; Wallston, 1991).

Two measures of Health Value (Rokeach, 1973; Lau *et al.* 1986) have been particularly prominent, each of which takes a different approach to the measurement of health value (Norman and Bennett, 1996). The first approach is a variant of the Rokeach (1973) terminal values ranking task (Lau *et al.*, 1986). Respondents are asked to rank in order of importance to them a series of terminal values (i.e. an exciting life; equality; freedom), one of which is health. The advantage of this approach is that health is ranked against other potentially desirable outcomes, in other words, health is measured as a relative dimension (Norman and Bennett, 1996). The second approach measures value placed on health as an absolute value (Lau *et al.*, 1986). Respondents are asked to rate their importance placed on health, without comparing health with any other factor. The Health Value scale developed by Lau *et al.* (1986) was used in the present study. The Scale and its psychometric characteristics are presented in detail in Chapter 6.

Figure 2.6 The Theory of Planned Behaviour



2.3.5 The Theory of Planned Behaviour

The Theory of Planned Behaviour (TPB) (Ajzen, 1988; 1991) constitutes an extension of the earlier Theory of Reasoned Action (TRA) (Ajzen and Fishbein, 1980). Both refer to individual motivational factors as determinants of the likelihood of performing a specific behaviour (Montaño *et al.*, 1997), while they appear to imply that individuals make behavioural decisions based upon a careful consideration of available information (Conner and Sparks, 1996). Based on early work of Fishbein on the relationship between attitudes and behaviour and the failure of general attitudes to predict behaviours in specific situations (Fishbein, 1967 c.f. Conner and Sparks, 1996; Ajzen, 1991), initially a new variable - behavioural intentions - was interposed; then an explanatory model was developed which explained when strong relationships between attitudes and behaviours might be expected (Conner and Sparks, 1996). This later point refers to the *principle of compatibility* (Ajzen, 1988), the basis of both TRA and TPB. According to this principle, attitudes and behaviour relationship will be greater when both are measured at the same level of specificity (either very general or very specific) in terms of action, target, context and time. General attitudes should predict general classes of behaviour and when attempting to predict specific behaviours, there is a need to study specific attitudes (Conner and Sparks, 1996).

Description of the theory

Similarly to the original TRA, the TPB asserts that the most important determinant of behaviour is an individual's *intention* to engage in that behaviour. Intention represents a person's motivation in the sense of her conscious plan to try to perform the behaviour and explain and mediate attitudes and behaviours. In other words, attitudes affect the performance of a specific behaviour via their impact upon intentions (Conner and Sparks, 1996). As a general rule, the stronger the intention to engage in a behaviour, the more

likely should be its performance (Ajzen, 1991). Nevertheless, not all behaviours are under volitional control, nor are they easily performed - there are behaviours, which require skills, resources {i.e. money, time, e.t.c.} or opportunities in order to be undertaken. These factors represent a person's *actual* control over the behaviour (Ajzen, 1991). It seemed therefore that an extra element to the theory was required in order to enhance its predictive ability. Thus, Ajzen (1988) added perceptions of control over performance of the behaviour and created the TPB. The notion of *perceived behavioural control* resembles that of self-efficacy (Bandura, 1982), and in the TPB it is placed within a more general framework of the relations among beliefs, attitudes, intentions and behaviour (Ajzen, 1991). The extension from the TRA to the TPB was based on the idea that the performance of a behaviour is determined jointly by motivation (intention) and ability (behavioural control) (Montaño *et al.*, 1997).

◆ *Determinants of Behaviour*

The Theory of Planned Behaviour describes **behaviour** as a linear regression function of *behavioural intentions* and *perceived behavioural control*. These two elements can be used directly to predict behavioural achievement, under three conditions: The measures of intention and control should be compatible with the behaviour to be predicted. The intention and behavioural control must remain stable from the time they are measured and the observation of the behaviour. Finally, measures of perceived behavioural control should realistically reflect actual control (Ajzen, 1991).

◆ *Determinants of Intention*

Intention is determined by three conceptually independent factors (Ajzen 1991). *Attitude* towards the behaviour is the first factor. Attitude refers to how an individual evaluates the behaviour in question (how favourable or unfavourable is the behaviour). According to the principle of compatibility, attitude should be assessed at the same level of

specificity, as the behaviour. *Subjective norm* is the second determinant of intention. This social factor consists of a person's beliefs about whether significant others think he/she should perform the behaviour in question. Subjective norms represent the social pressure posed to the individual to engage or not the behaviour (Ajzen, 1991). Finally, intention is determined by *perceived behavioural control*, which refers to the individual's perception of how easy or difficult is the performance of the behaviour. Behavioural control is assumed to reflect past experience, as well as anticipated obstacles for performing the behaviour. As seen from the theory, the perceived behavioural control component is related with both the intention and the actual behaviour. Generally, it is assumed that "...the more favourable the attitude and subjective norm with respect to a behavior, and the greater the perceived behavioral control, the stronger should be an individual's intention to perform the behavior under consideration" (Ajzen, 1991, p.188).

◆ *Determinants of attitude, subjective norm and perceived behavioural control*

As with intention, attitude, subjective norm and perceived behavioural control are in turn determined by other factors. These factors are in reality *salient* beliefs that are considered to be the prevailing determinants of an individual's intentions and actions (Ajzen, 1991). The **attitude** component is a function of an individual's *behavioural beliefs*, which link the behaviour in question with a specific outcome (the perceived consequences of the behaviour), weighted by *evaluations* of those outcomes. It is supposed that if an individual holds a strong belief that a positively valued outcome will result from performing a specific behaviour, he/she will have a positive attitude towards that behaviour. **Subjective norm** is determined by *normative beliefs*, which represent individual's perceptions of whether specific significant others would approve or disapprove his/her performing the behaviour, weighted by individual's *motivation to comply* with the wishes of the significant others. It is assumed that if an individual believes that certain (significant to

him/her) persons think he/she should perform a behaviour, and is motivated to follow others' expectations, he/she will hold a positive subjective norm. Finally, **perceived behavioural control** is determined by *control beliefs*, which refer to whether one has access to the resources and opportunities needed to perform the behaviour, weighted by the perceived *power* of each resource. Thus, the more resources and opportunities a person believes he/she has, and the fewer obstacles he/she anticipates, the greater should be his/her perceived control over the behaviour (Ajzen, 1991).

Within TPB, the influence on behaviour of other variables (demographics, personality traits), is supposed to be indirect, as these variables impact on any of the components of the model. For this reason, TPB is considered a complete theory of behaviour (Conner and Sparks, 1996). The Theory of Planned Behaviour is graphically presented in Figure 2.6.

2.3.6 Theoretical comparisons between the Social Cognition Models

Norman and Conner (1996) provided a review of the literature on the similarities between the social cognition models at a conceptual level. Based on this review, these authors concluded that there is a significant overlap between the constructs of the theories, as most of them focus on the consequences of performing a behaviour (i.e. HBM: costs and benefits; TPB: behavioural beliefs). Additionally, there seems to be the case that some models could be expanded to consider normative influences (i.e. HBM, in which norms are listed as one of the cues to action) and perceptions of threat (i.e. TPB, in which the notion of threat is indirectly tapped by behavioural beliefs <susceptibility> and behavioural evaluation <severity>). Furthermore, there seems to be a strong case for the notion of self-efficacy (Bandura, 1977) to be included in models of health behaviour (i.e. in the HBM). Finally, the behavioural intention construct could act as a mediating variable

between other social cognitive variables and behaviour. From the models presented in this section, Health Locus of Control constitutes a generalised expectancy of the relationship between one's action and health outcomes. As such, it seems to be rather far from the other models that include similar constructs (i.e. perceived behavioural control in the TPB is situation-specific and differs significantly from the Locus of Control notion).

In the following sections, I will consider the literature and I will put my focus on the very limited research conducted until present.

2.4.1 Links with the Health Belief Model

2.4.1.1 General health behaviours

The six HBM components have been tested individually and in combination as predictors of a great range of behaviours. These behaviours could be grouped in three broad areas (Sheeran and Abraham, 1993):

- a. Preventive health behaviours (i.e. diet, exercise, vaccination)
- b. Disease behaviours (i.e. compliance with medical treatment)
- c. Obedience (i.e. physician visits)

On these broad classes of behaviours studied using the HBM, two quantitative reviews have been published (Ajzen and Fishbein, 1984; Haines et al., 1992). In the review of Haines et al. on preventive behaviour (i.e. vaccination, 18; an 80% rate behaviour, 3; on diet-exercise) Ajzen and Sheeran (1985) used a meta-analytic procedure calculating a significance ratio which showed the percentage of times each HBM variable was statistically significant in the predicted direction. Results showed that beliefs of disease susceptibility and severity were very similar to HBM predictions. Beliefs were the most reliable predictor of behaviour (diet, 60% and compliance, 65%). Beliefs (75%) and health severity (60%) were the most consistent predictors of behaviour (vaccination, 65%). The authors concluded, "...in general, the review very substantially

2.4 Studies re Social Cognition Models and behaviours in the context of HIV/AIDS

There is an argument that the research on behaviour and behaviour change in the area of HIV/AIDS and its psychosocial predictors has been exploratory (Basen-Engquist, 1992). Very few studies have used variables drawn from existing theories of health behaviours. In the following sections, I will consider this literature and I will put my focus on the very limited research conducted within prisons.

2.4.1 Studies with the Health Belief Model

2.4.1.1 General health-behaviours

The six HBM components have been tested individually and in combination as predictors of a great range of behaviours. These behaviours could be grouped in three broad areas (Sheeran and Abraham, 1996):

- a. Preventive health behaviours (i.e. diet, exercise, vaccination)
- b. Sick-role behaviours (i.e. compliance with medical regimens)
- c. Clinic use (i.e. physician visits).

On these broad areas of behaviours studied using the HBM, two quantitative reviews have been published (Janz and Becker, 1984; Harrison *et al.*, 1992). In their review of 46 studies [24, on preventive behaviour (i.e. vaccination); 19, on sick role behaviours; 3, on clinic use] Janz and Becker (1984) used a vote count procedure calculating a significance ratio which showed the percentage of times each HBM construct was statistically significant in the predicted direction. Results showed that across all studies, the significance ratios were very supportive of HBM predictions. Barriers were the most reliable predictor of behaviour (89%), followed by susceptibility (81%), benefits (78%), and finally severity (65%). The authors concluded, "...investigations provide very substantial

empirical evidence supporting HBM dimensions as important contributors to the explanation and prediction of individuals' health-related behaviour" (Janz and Becker, 1984, p. 41). Nevertheless, this early review suffered from serious difficulties. Significant ratios explained only how often HBM components were significantly associated with behaviour and not how big an effect these components had. In the method adopted findings from studies with large and small numbers were equally weighted. Finally, the analysis conducted did not strictly considered multiple measures of the same component or multiple behavioural outcomes (Sheeran and Abraham, 1996).

Harrison *et al.*, (1992) conducted a meta-analysis of the relationships between the four major HBM components and health behaviour. Using very strict inclusion criteria, they ended with 16 studies that measured all four dimensions, had a behavioural dependent variable and included reliability checks. The meta-analysis involved converting results for HBM components for each study into a common effect size (Pearson's r , indicating the magnitude of the relationship). Reviewers computed 24 mean effect sizes: for all studies; separately for screening, risk reduction and adherence to medical regimen studies; and for retrospective and retrospective study designs. Results indicated 22 out of the 24 mean effect sizes to be positive and statistically significant, but any one dimension could account for at best less than 10% of the variance. Homogeneity was rejected for 15 of the 22 effect sizes, indicating that studies possibly measured different constructs. Furthermore, unlike Janz and Becker's (1984) review, results showed the retrospective/cross-sectional studies to have significantly higher effect sizes for benefits and costs and lower effect size for severity than the prospective studies.

Overall, one could conclude that the above tests of the HBM components support their predictive utility (although their effects on behaviour might be weak). Nevertheless, poor operationalizations of the model and failure to check both the reliability and validity of the

constructs constitute a significant drawback with research (Sheeran and Abraham, 1996). Additionally, the above reviews have been restricted to studies dealing with rather not serious health problems (i.e. influenza) or for which the preventive behaviours were not very complex (i.e. immunisation). They have not included studies of preventive behaviours related to sexually transmitted diseases (STDs) and HIV/AIDS. There is evidence that the complexity of the behaviour and the severity of the outcome associated with it affect the link between perceived vulnerability and preventive actions (Montgomery *et al.*, 1989; Gerrard *et al.*, 1996).

2.4.1.2 HIV-preventive behaviours

In recent years, an increasing number of studies has applied the HBM to HIV-preventive behaviours (see Ross and Rosser, 1989; Brown *et al.*, 1991; Carmel, 1991; Abraham and Sheeran, 1994; Sheeran and Abraham, 1996; Gerrard *et al.*, 1996, for reviews), while at the same time the model was proposed as a potentially useful theoretical framework for HIV-preventive education (Sheeran and Abraham, 1996). The vast majority of studies have dealt with sexual behaviours of different groups and the prediction of condom use as means of HIV prevention. On the other hand, there is a scarcity of studies used the HBM in predicting HIV needle risk practices among IDUs.

2.4.1.2.1 Sexual behaviours (reviews)

In an early review of the literature from the 1980s (more than 45 studies) on the role of education and information in preventing HIV-infection Ross and Rosser (1989), showed that four health education models [Taxonomy of Educational Objectives (Bloom *et al.*, (1964); HBM; Theory of Reasoned Action (Ajzen and Fishbein, (1980); PRECEDE model (Green *et al.*, (1980))] made a contribution to explaining the effectiveness of AIDS

education. The most important finding in this review was that information on its own, without modification of attitudes or perception of AIDS as a personal concern that one can do something about (the HBM idea), had no effect on knowledge or behaviour. Overall, the review advocated the use of SCMs to guide intervention design.

Carmel (1990/91) reviewed 7 studies on sexual behaviours among homosexuals and adolescents that used elements of the HBM. In general, it was shown that when social norms were operationalised as "barriers" or "benefits", these two HBM components were the best predictors of AIDS-related recommended behavioural change, with "susceptibility" being the second important component across studies. Nevertheless, significant methodological and constructional issues (i.e. lack of operationalisation of HBM components) were identified, resulting in major limitations regarding the predictive ability of the model.

In two more recent and aggregate reviews, Abraham and Sheeran (1994), Sheeran and Abraham (1996) critically evaluated studies on applications of the HBM to HIV-preventive behaviours in different groups. In these reviews, studies among homosexual men (Emmons *et al.*, 1986; Joseph *et al.*, 1987; McCuskar *et al.*, 1989a; 1989b; Siegel *et al.*, 1989; Aspinwall *et al.*, 1991) showed that increased levels of perceived susceptibility led to denial of those men already aware of their HIV risk, indicating that the HBM was not a good model of the determinants of gay men's sexual behaviour in prospective studies. More significantly, these studies revealed the importance of past behaviour as a determinant of HIV-preventive behaviour while other measures (i.e. descriptive norms, self-efficacy) and contextual factors (i.e. drug use) were more important predictors of HIV-preventive behaviour than HBM variables.

This pattern of safer sexual behaviour being predicted by previous behaviour and not by health beliefs was further confirmed by research on adolescents. A review conducted

by Abraham *et al.* (1996) of cross-sectional studies among young heterosexuals (i.e. Hingson *et al.*, 1990; Rosenthal *et al.*, 1992) produced mixed results with regard to associations between HBM measures and preventive behaviour. Additionally, it was shown that gender affected intention-behaviour relationship, with men being more consistent on their intentions and their behaviours (Abraham *et al.*, 1995, cited in Sheeran and Abraham, 1996; Petosa and Jackson, 1991; Holland *et al.*, 1990). Overall, evidence from research on adolescents suggests that there are differences between men and women's HIV preventive behaviour and that other than HBM-cognitions would be required in order to promote safer sexual practices (Sheeran and Abraham, 1996).

Gerrard *et al.* (1996) used qualitative and meta-analytic procedures in order to examine the literature (32 studies) on the relation between perceived vulnerability to HIV and precautionary sexual behaviour among a diverse set of populations (i.e. students, IDUs, gay men etc.). They analysed 4 prospective, 26 cross-sectional and 5 retrospective studies. The review concluded that both positive and negative correlations, as well as no correlations were found between perceived risk of contracting HIV and AIDS-preventive behaviour. These conflicting results reflect a weak support for the hypothesis that risk and precautionary behaviours **influence** perceptions of HIV vulnerability, but at the same time fail to provide support of the opposite, that vulnerability estimates are sufficient enough to **motivate** subsequent precautionary behaviour, with the latter conclusion being particularly true for high-risk groups (i.e. prostitutes, gay men).

The above mentioned works have reviewed studies, which had investigated exclusively HIV-preventive sexual behaviour, merely condom use, and were based on samples of homosexual men and adolescents. Generally, these reviews provided little support on the ability of the Health Belief Model to predict HIV preventive behaviours. On the contrary they were more focused on identifying the shortcomings and the restrictions of

the Health Belief Model. A general conclusion of these reviews one could draw is that although some components of the HBM like *susceptibility and barriers*, proved to be predictors of HIV-preventive behaviours, the HBM alone seems to be an insufficient tool to predict such a complicated behaviour as sexual behaviour in relation to AIDS.

2.4.1.2.2 Sexual behaviour (individual studies)

Individual studies, not included in the above-mentioned reviews, have also been conducted among different populations, again focusing on HIV-preventive sexual behaviours. Populations studied include teenagers / adolescents from different cultural backgrounds (Abraham *et al.*, 1992; Wilson and Lavelle, 1992); high school students (Walter *et al.*, 1992); university students (Basen-Engquist, 1992; Yep, 1993; Zimmerman and Olson, 1994; Rimberg and Lewis, 1994); women (Carlson Gielen *et al.*, 1994); and male prostitutes (Bloor *et al.*, 1992). Overall, these individual studies confirm the pattern as presented in the above reviews, and provide partial support to the ability of the HBM to predict either safe sexual behaviours – mainly condom use – or behaviour change over time, or behavioural intentions among the individuals studied. Associations between HBM components and HIV-preventive behaviours were shown in almost all studies, but there was a difficulty in establishing a “cause – effect” relationship, mainly due to the cross-sectional design of the studies. Perceived personal HIV susceptibility and – most consistently - perceived barriers in practising safer sex (i.e. condom use) remained the two HBM components with the highest predictive power. At the same time, variables already highlighted in the previous reviews like social norms, values, and self-efficacy emerged once again as important predictors.

In a recent study, Buunk *et al.*, (1998) confirmed the above pattern of results (that is partial support of the HBM predictive ability) examining the predictors of the intention to

use condoms with new sexual partners in a sample of heterosexual adults. HBM components (barriers to condom use and cues to action), were examined among other psychosocial variables with regard to their relationship with the dependent variable (intention to use condom with a new partner), separately for men and women at risk for HIV infection. Results clearly indicated that all three psychosocial potential predictors (barriers, self-efficacy and social norms) were independently related to the intention to use condoms. Nevertheless, when all relevant predictors were included in the analysis, the effect of perceived barriers was diminished. Instead, self-efficacy, anticipated regret (when a person is engaged in a behaviour that puts her/him at risk and that could easily had been prevented {cf. Loomes and Sugden, 1982}) and descriptive social norms (what others are perceived *to do* themselves {cf. Buunk and Bakker, 1995}) were independent predictors of intention to use condoms among both sexes.

2.4.1.2.3 Studies on drug use

As seen in the above paragraphs, the vast majority of the research with the HBM conducted in the context of HIV/AIDS concerned either preventive (i.e. condom use) or risky sexual behaviour (i.e. multiple sexual partners). There is a scarcity of relevant research related to the other set of behaviours that are dangerous for HIV infection, the behaviours related to IDU (Huang *et al.*, 1989; Gibson *et al.*, 1993). Each of these studies tested some of the components of the HBM, showing that in one case, barriers was a weak predictor for needle cleaning (Huang *et al.*, 1989) while in the other case (Gibson *et al.*, 1993), self-efficacy was significant in predicting lower levels of needle sharing. To the best of my knowledge, only one study (Falck *et al.*, 1995) has until now directly tested the ability of all HBM components in order to predict HIV preventive practices among IDUs. In this study, Falck *et al.*, (1995) collected data on injection practices and health beliefs from

118 active IDUs in two American counties. Logistic regression analysis revealed that perceived self-efficacy was positively related to safer injection practices, while perceived susceptibility was negatively related to safer injection practices. Commenting on this latter association, Falck *et al.*, (1995) mention that "... the perceived susceptibility variable may actually function as a risk-assessment measure. Those IDUs who employed safer needle-use practices.... perhaps believed that their injection practices did not make them susceptible to the HIV disease" (p. 531). Nevertheless, this seemingly paradoxical finding, was confirmed by later findings (i.e. Gerrard *et al.*, 1996) in that, for IDUs also, susceptibility to AIDS was in fact the effect of their safer injecting practices rather than the predictor.

2.4.1.3 Studies in prison setting

Limited HBM related research has been conducted in prison settings. The two studies of this type I am aware of have been conducted among young offenders. Wilson *et al.* (1990) examined the associations between AIDS knowledge, components of the HBM, alcohol/drug use and intended condom use among 196 Zimbabwean adolescents in probation/remand homes. Results showed that AIDS knowledge, perceived condom effectiveness, social support and perceived barriers to condom use were all independently significantly associated with definite intention to use condoms upon release. Nevertheless, when during regression analysis all variables entered simultaneously into the model, beliefs in the effectiveness of preventive behaviour was the only significant predictor of intended condom use.

In a more recent study, Lux and Petosa (1994) tested HBM components in predicting 452 juvenile delinquents' safer sex intentions. Results found perceived susceptibility and barriers (two of the four mainstays of the HBM) to condom use as

significant. Also significant were found, perceived social norms and self-efficacy, components that were added to the model at a later stage. Overall, this study, contrary to previous research (Wilson *et al.*, 1990; Petosa and Jackson, 1991; Walter *et al.*, 1992) clearly supported the use of the HBM (the extended version) as a means to investigate safer sex intentions among juvenile delinquents.

2.4.1.4 Critical evaluation of the HBM

As seen above, the HBM has been used in studying a wide range of behaviours, among a diverse set of populations. Nevertheless, as a general pattern, the HBM has failed to explain much of the behaviour practised by individuals, especially in a disease like AIDS. In the best case, only specific components of the initial version of the model (i.e. perceived susceptibility and perceived barriers) were associated with preventive actions. This rather poor performance of the model could be attributed to two main reasons: 1) to constructional problems of the HBM itself, its conceptual ambiguity and the methodological constraints on the use of the model through different studies, and 2) to the specific characteristics of AIDS as a disease. These two aspects are discussed below.

2.4.1.4.1 Constructural and Methodological problems with the HBM

Obvious, even from the schematic presentation of the HBM (Figure 2.5) it is the fact that there are not operationalisation instructions on how the different components of the model are linked with the health behaviour or action. Thus, the HBM appears as a series of six separate independent variables, which potentially account for variance in observed or reported health behaviours (Sheeran and Abraham, 1996). Additionally, the components are left open to debate, resulting in variations on definitions of the constructs by researchers (Champion, 1984; Harrison *et al.*, 1992). Especially on the early studies,

specific methodological problems related with the use of the HBM, have been identified (Champion, 1984): a) Tools were not tested for validity or reliability; b) operational definitions varied greatly from one study to another; c) one or two items were used in measuring HBM components; d) concepts were operationalised in a nominal level, not allowing deep statistical analysis.

What has also been questioned was the way each of the HBM components was conceptualised (i.e. the relationships between HBM components and behaviour are fixed and linear or the components themselves are unidimensional) (see Sheeran and Abraham, 1996, for a short review). Gerrard *et al.*, (1996) showed in her review the complex nature of perceived susceptibility in relation to AIDS, and pointed out the difficulties in interpreting the correlations between susceptibility and HIV preventive behaviour. This tautological aspect of the model has been pointed out also by other authors (Moatti *et al.*, 1997), who have showed that health beliefs and perceptions could be taken *a posteriori* to be either causes or consequences of an individual's behaviour. In other words cognitive elements are often considered prerequisites for actions, although they may just as well serve to legitimate actions (Bastard and Cardia-Vonèche, 1997).

The HBM does not suggest a mechanism by which beliefs about a behaviour and perceived threat are translated into behaviour (Abraham and Sheeran, 1994; Sheeran *et al.*, 1999), as does – for instance - the Theory of Planned Behaviour (Ajzen, 1991), which proposes that **intention** precedes and predicts behaviour.

By 1980 two notions – that of “locus of control” (Rotter, 1966; Wallston *et al.*, 1978) and “self-efficacy” (Bandura, 1977) had been elaborated and established perceived control as an important determinant of health behaviour. This notion of perceived control is missing from the original formulation of the HBM. In their review, Janz and Becker (1984) recognised the importance of perceived control, but considered it as part of the “barriers”

component and not as an independent variable. The addition of perceived control to the HBM was proposed by Rosenstock *et al.*, (1988), after Ajzen and Maden (1986) had already incorporated in the Theory of Planned Behaviour. Subsequent studies on the HBM, which used measures of perceived control proved its importance in predicting health behaviours.

Finally, a critique posed to the HBM as a school of thought, mainly by sociologists, is that it has some difficulty in taking into account the impact of collective and normative influences at work in the social environment on "individual perceptions" (Moatti *et al.*, 1997).

2.4.1.4.2 "HIV-prevention"-related problems with the use of HBM

Relevant research has highlighted the complexity of HIV-preventive behaviour and the limitations of the HBM. Generally speaking, the HBM is characterised by its focus on intraindividual cognitions and perceptions and does not pay attention to the influence of the social environment on AIDS-preventive behaviours (Buunk *et al.*, 1998). Nevertheless in the case of AIDS, specific characteristics of the disease itself, and the preventive actions required, plus the social context within which these actions take place pose problems in the usefulness of the model in prediction of such actions.

More specifically, compared with other health conditions and health practices successfully predicted by the HBM in the early studies, AIDS has significant differences (Brown *et al.*, 1991; Abraham and Sheeran, 1994; Gerrard *et al.*, 1996). a) There is a low probability for {1/1,000 – 1/10,000, from an unprotected sexual contact with a member of a high-risk group (Hearst and Hulley, 1988)} and uncertainty of HIV infection. There is evidence that among IDUs the consequences of developing AIDS (perceived severity) are not always enough to warrant behaviour change (Hayes, 1991). Even when infected, the

fatal consequences (sometimes delayed due to prolonged incubation), may lead in a "recognition" of the AIDS severity, but not in an "acknowledgement" of susceptibility. In other words, as the chances of contracting the virus while engaging in any one at-risk behaviour are small, individuals tend to minimise their perceived susceptibility (Hayes, 1991). b) Unlike other diseases, effective AIDS prevention requires a long-term maintenance of precautionary behaviours, as single incidence of recidivism can result in HIV infection (Yep, 1993; Buunk *et al.*, 1998). This need for continuity may be defined by a process different from that, which motivated the initial change. c) HIV-preventive behaviours – especially safe sexual behaviour - is very complex, as it involves complicated and habitual behaviours, (i.e. condom use), which require a cognitive process to be undertaken. There is evidence that sexuality is age, status and gender graded (Holland *et al.*, 1992), resulting in questioning the process of comparing individual scores on rating scales, and putting the issue that behaviours are under individual volitional control under a strong challenge (Ingham and van Zessen, 1997). As a practice, it requires negotiation with the partner. It is fundamentally interactive and has high emotional and arousal content, thus rendering social skills better predictors than beliefs specified by the model. Evidence also exists that young adults prefer simpler preventive tactics like monogamy, instead of condom use (Yep, 1993). Additionally safe drug use related-behaviours require specific means and resources in order to be practised (i.e. money to buy syringes, availability of the "works" in specific places, like prisons). Finally, d) especially among adolescents, there seems to be maturational, developmental and perceptual constructs, which the HBM has not taken into account.

Concluding, it seems that the HBM conceives HIV-preventive and risky sexual behaviour as a volitional and individualistic activity, a de-contextualised orientation to be carried across a range of encounters (Bloor *et al.*, 1992). It seems that the HBM doesn't

appear to be valid in analysing sexuality, as sexuality is not a personal health problem (Bastard and Cardia-Vonèche, 1997). It is therefore too distant from this process to offer a productive theoretical framework for this work (Brown *et al.*, 1991; Sheeran and Abraham, 1996).

2.4.2 Studies with the Health Locus of Control / Health Value

Psychologists have used the HLC construct mainly as a predictor of preventive behaviour. They have mainly focused on the correlation between Internal HLC and preventive actions. Furthermore, research has focused on the relationship between HLC beliefs and specific behaviors, like participation in physical activity, alcohol consumption, breast self-examination, smoking cessation, weight loss and cancer-screening behaviours (see Norman and Bennett, 1996 for a brief review; Murray and McMillan, 1993). Generally, the results of research on these topics were in line with expectations derived from the theory. Internals were found to be more likely to take more responsibility for their health and well being. Nevertheless, the correlations found were weak, yet in many cases, contradictory results have also been emerged, especially when one referred to health-damaging behaviours. For example, Carlisle-Frank (1991) in her theoretical review on substance abuse provides research evidence that drug abusers and alcoholics have been found more internals than control groups. One possible explanation for these contradictory findings and the weak associations between HLC beliefs and health behaviours is that individuals may be *internals* in some domains or life areas, and *externals* in the domain of health-related behaviours (Carlisle-Frank, 1991). Additionally, another explanation may be that the MHLC scale measures generalized behaviour expectancy beliefs (Norman and Bennett, 1996). That is, while HLC is specific to a goal (i.e. health) it cuts across a lot of situations, like exercise, diet, smoking, and e.t.c. Corresponding to this criticism, a number

of behaviour-specific HLC scales have been developed.

Additionally, a serious methodological constraint was detected. Very few of the studies have used a measure of health value in conjunction with the HLC construct, as required by the original SLT, upon which the locus of control construct is based (see Wallston, 1991 for reasoning). Early studies addressing the point have produced inconsistent findings. A study conducted in the beginning of 90s (Weiss and Larsen, 1990) investigated the effects of health locus of control and value placed in participation in health protective behaviours, by interviewing 213 undergraduate students. Using an index of health protective behaviour rather than a single behaviour, Weiss and Larsen (1990) found that health value was a stronger predictor than health locus of control. Additionally, Internal HLC increased participation in health protective behaviours, only for those who valued their health highly. Finally, the researchers found that respondents with high health value and Internal HLC appeared most likely to engage in health protective behaviours. The results of this study supported fully the interaction of HLC and the HV in predicting health-related behaviours.

Few studies have examined locus of control beliefs in relation to AIDS knowledge, attitudes and HIV-related behaviour. Based on theory, a positive relationship between internality and the performance of safe sex practices is expected. Conversely, a negative relationship between External HLC (luck, chance) and the performance of safe sex practices is expected. Studies that have examined the relationships between HLC beliefs and AIDS-related behaviour have produced results, which are generally in line with expectations (Norman and Bennett, 1996; Schilling *et al.*, 1993).

Haven *et al.* (1992) examined the relationship between health locus of control beliefs and attitudes towards people with AIDS, in a sample of 539 Australian adults. Results showed that – in line with the theory - negative attitudes were associated with

powerful others and chance locus of control beliefs. Also, Internal HLC beliefs were related to positive attitudes towards people with AIDS, but this relation was significant only among men.

Aruffo *et al.* (1993) investigated the contribution of HLC construct to knowledge of AIDS transmission and prevention in a low socio-economic status minority sample of 587 subjects from the Community Health Centres of Texas. The authors used the MHLC scale (Wallston *et al.*, 1978) and found that HLC construct was – together with other demographic variables - a strong predictor of AIDS knowledge. Higher internal orientation and higher educational level were associated with greater AIDS knowledge. This relationship was found to be consistent across all levels of age and sex and it was independent of the level of education.

Three studies have addressed the issue of altering the locus of control beliefs through educational interventions. St Lawrence *et al.* (1994) developed and evaluated a cognitive-behavioural intervention intended to equip 19 substance-dependent adolescents with interpersonal and technical skills to modify their risk-producing activities. Pre- and post-intervention data on knowledge, attitudes, locus of control beliefs, social support and self-efficacy was collected from all participants. Results showed that post-intervention, the youths exhibited greater knowledge, higher scores on the Internal HLC subscale and lower scores on the External HLC subscale, and more favourable attitudes toward HIV prevention and condom use. Similarly, Nurco *et al.* (1995) studied the effects of a clinically guided self-help programme on a sample of 38 IDUs, clients of a methadone maintenance clinic. A 15-items drug use-related locus of control scale regarding both the past (causes of IDU) and the future (methods to deal with) was used. Results showed that all subjects were strongly internally oriented, as far as the future LOC, both at baseline and follow-up. Regarding past LOC, a statistically significant shift (from baseline to follow-up) from

external to internal orientation emerged only for members of group A (those who received the guided self-help programme). On the other hand, Murphy (1990) studied the effect of teaching decision-making on locus of control among 19 adult male inmates. He used the I-E scale (Rotter, 1966) and contrary to the above two studies, he showed that training in decision-making skills had no effect on inmates' locus of control beliefs.

With regard to AIDS-related behaviours, the number of relevant studies is also limited. Considering the AIDS-related behaviour of gay men, Price-Greathouse and Trice (1986) found that those men who held strong Chance HLC beliefs were less likely to attend AIDS education sessions, although no relationship was found with Internal HLC beliefs. Similarly, St Lawrence (1993) used the MHLC scale in order to examine condom use during the past 6 months, in a sample of 195 African-American adolescents. By only finding a negative relationship between External HLC beliefs and frequency of condom use, but no relationship between Internal HLC beliefs and condom use, she partially supported the HLC theory. In another study among gay men, Kelly *et al.* (1990) addressed the issue of specificity on the HLC construct and developed an AIDS-specific HLC scale in order to investigate the relations between AIDS-risk sexual practices and health locus of control beliefs, in a sample of 526 men who patronised gay bars. The researchers found that those men who did not engage in unprotected anal intercourse were more likely to attribute safety in their own precautionary behaviour (were more internals) and less likely to attribute AIDS risk to external factors like chance, fate or luck. On the other hand, those gay men who reported having unprotected anal intercourse were less likely to have internal AIDS-related HLC beliefs and more likely to believe that the likelihood of infection with HIV was owing to chance factors.

As can be seen, the above mentioned studies conducted in the context of AIDS have a diverse set of research aims and adopted different methodologies and measures.

The results produced are generally in the direction posed by the theory. Nevertheless, the same criticism mentioned in the above paragraphs – lack of use health value measures – could also be applied to many of these studies.

To the best of my knowledge, only one study using the health locus of control construct has ever been conducted within a prison setting. Robertson and Levin (1999) examined AIDS knowledge, condom attitudes and sexual behaviour in a sample of 193 substance-abusing juvenile offenders. Locus of control was examined as a potential predictor of juveniles' condom use during the previous six months, together with other variables. Results indicated that external locus of control was negatively associated with reported condom use, yet the association was not statistically significant. Additionally, only attitudes towards condoms and use of a condom during first intercourse were the most significant predictors of condom use.

Overall, it seems that the health locus of control construct is a weak predictor, even when one considers its interaction with health value. Wallston (1992), discussing this pattern of results, asserted that Internal HLC and health value still remain generalised measures (although specific to health), being able to predict global indices of health rather than specific behaviours. He also proposed behaviourally specific expectancies to join locus of control and health value in order specific behaviours to be predicted. Introducing the notion of *perceived control*, he argues that "People must value health as an outcome, believe that their health actions influence their health status, and *concurrently* believe that they are capable of carrying out the necessary behaviours in order to have a high likelihood of engaging in a health directed action" (Wallston, 1992, p.195).

2.4.3 Studies with the Theory of Planned Behaviour

A large number of studies have been conducted using the TRA in order to predict a

number of health-related behaviours, indicating varying degrees of success (Conner and Sparks, 1996). With regard to the TPB, an early review (Ajzen, 1991) indicated that intentions to perform behaviours of different kinds could be predicted with high accuracy by attitudes toward the behaviour, subjective norms and perceived behavioural control. Additionally, Ajzen (1991) in his review showed that intention, together with perceptions of behavioural control accounted for considerable variance in actual behaviour. Nevertheless, only a limited number of studies reviewed by Ajzen (1991) referred to behaviours that had health as the primary motive (e.g. weight loss). Studies of more complex health-related behaviours like drug use and/or condom use were not mentioned at all.

In a more recent review of more than fifty studies using the TPB and the TRA to predict primarily health-related behaviours (e.g. smoking, alcohol consumption, condom use among heterosexuals and homosexuals, health screening attendance, exercise, food choice, breast/testicle self-examination) (Conner and Sparks, 1996), results seemed to be mixed, albeit generally supportive of the theories. For behaviours with low volitional control (i.e. smoking, alcohol consumption and condom use, breast/testicle self-examination) the addition of the PBC component did improve the predictive power of the initial model (TRA) mainly on the intentions but not always on the actual behaviour. For behaviours like health screening attendance, exercise, and food choice, PBC added no predictive power, yet intentions remained the strongest predictor of the actual behaviour. Nevertheless, due to the high diversity of behaviours mentioned in the review, and the relatively limited number of studies that have used the TPB, no definite conclusions could be drawn.

Sutton (1998) evaluated the performance of both TRA and TPB in predicting and explaining intention and behaviour, by reviewing findings from previous meta-analyses and quantitative reviews of the two models. These findings showed that the two theories explained on average between 40% and 50% of the variance in intention and a lower

percentage (between 19% and 38%) of the variance in actual behaviour. Although not concluding whether these percentages should be considered impressive or disappointing, Sutton (1998) offered nine potential explanations for the rather poor performance of the two theories (in the sense that the percentages of explained variance reported are not as high as one might expect). Some were basically theoretical, like the possibility of intention to change over time, or to be provisional, or not to be a sufficient cause of behaviour, and the violation of the principle of compatibility (Ajzen, 1988) and scale correspondence (Courneya, 1994, cf. in Sutton, 1998). Others were methodological, like the usage of unequal number of response categories for intention and behaviour, the random measurement error in and the unequal marginal distributions of the measures of intention and behaviour, and the restriction of range/variance in intention and behaviour.

Overall, the above mentioned reviews seem to be supportive of the predictive ability of the TPB, regarding both the intention to perform specific behaviours and the behaviour itself.

2.4.3.1 Sexual behaviour

Published individual studies – not included in the above reviews - have also investigated the utility and the predictive ability of either the TRA, or the TPB in relation to sexual behaviour, particularly the use of condoms, in the context of AIDS. Overall, studies conducted among adults (Albarracin *et al.*, 1998), IDUs (Corby *et al.*, 1996; Montaña *et al.*, 1997), adolescents and university students from different social and cultural backgrounds, like Australia (Barling and Moore, 1990; Boldero *et al.*, 1992; Terry *et al.*, 1993), U.S.A. (Jemmott, J.B. III *et al.*, 1992; Fisher *et al.*, 1995), Africa (Wilson *et al.*, 1992) and Europe (Richard *et al.*, 1995; Sutton *et al.*, 1999) have produced mixed results. Some studies (Jemmott, J.B. III *et al.*, 1992; Corby *et al.*, 1996; Montaña *et al.*, 1997; Albarracin *et al.*,

1998, for the TPB; Terry *et al.*, 1993; Fisher *et al.*, 1995, for the TRA) fully support the theories in terms of prediction of both the intention (it was predicted by attitudes, subjective norms and perceived behavioural control) and the actual behaviour (it was predicted by intention). Especially, work conducted with adults (Albarracin *et al.*, 1998) confirmed the need for using traditional measures of the theory's construct in order to produce positive results. Nevertheless, this study showed that past condom use influenced intention to use condoms and that this influence was partially mediated by attitudes and norms. In line with the results of these studies, Abraham *et al.* (1998) keenly argued in favour of the TPB's capacity to predict HIV-preventive sexual behaviours. Based on reviews of relevant research, they concluded that models like TRA/TPB are able to explain 20-45 percent of variance in sexual behaviour. This percentage could lead to a change of condom use rates between 20-30% and 70-80%, if effective cognition-change interventions based on the TPB were applied. They also pointed out that recent evaluations of intervention programmes based on the theories have produced significant increases in HIV-preventive behaviours, compared to controls. Nevertheless, other studies (Boldero *et al.*, 1992; Wilson *et al.*, 1992; Richard *et al.*, 1995, for the TPB; Sutton *et al.*, 1999, for both TRA/TPB) provided only limited support for the theories. The first of these studies (Boldero *et al.*, 1992) indicated intention to use condoms as a direct predictor of condom use, but also revealed contextual variables of the sexual encounter (i.e. sexual arousal, communication about condom use and condom availability) to influence condom use. The second (Wilson *et al.*, 1992) identified attitude as the only independent predictor of intention, while inclusion of perceived behavioural control added little to the prediction of intended condom use. The third study (Richard *et al.*, 1995) identified the role of anticipated affective reactions like worry and regret in predicting behavioural expectations, over and above the components of the TPB. The last study (Sutton *et al.*, 1999), which

compared TRA and TPB as predictors of condom use intentions in a national sample of youths, showed that TPB did not perform significantly better than TRA. At the same time, the study found that measures of past behaviour were the best predictors of intentions, in line with previous findings (Albarracin *et al.*, 1998). Finally, only one study demonstrated the link between attitudes to condom use and intention to use them (Barling and Moore, 1990).

This diversity of the results on the above mentioned studies is in line with previous reports on the predictive power of TPB in the context of sexual behaviour (Sutton *et al.*, 1999) and is mainly explained by the differences in the methodology applied, the measures used and the research questions posed throughout different studies. In any case, the important issue emerged was that when we talk about the prediction of such a complex behaviour like sexual behaviour, even a detailed model like TPB (which is a general model of social behaviour) has a limited power, as other characteristics of the behaviour in question (i.e. emotions) or contextual factors, or past sexual behaviour emerge as significant predictors.

2.4.3.2 Studies in prison setting

Two studies have investigated condom use intentions among youths in detention. In an early study, DiClemente (1991) collected data from 112 incarcerated adolescents in order to identify predictors of consistent condom use (defined as 'always' using condoms) during sexual intercourse. Results showed that perceiving peer norms as supporting condom use (an indicative component of the TPB), together with race (being non-Black) and the communication with the sexual partner about AIDS were the three most important independent predicting factors of consistent use of condoms. In a more recent study, Gilmore *et al.* (1994) investigated 201 incarcerated youths' beliefs about condom use and

their association with youths' intention to use condoms. Results identified five beliefs (protection against STDs, condoms reduce pleasure, they are artificial, unromantic and interrupt sex) associated with intention to use condoms with a steady partner and only one belief (condoms prevent pregnancy) associated with intention to use condoms with casual partners.

Nevertheless, these two studies suffered from serious methodological limitations. None of them was an exclusively theory-based study designed to test the influence of TPB components on sexual behaviour. The first (DiClemente, 1991) was an epidemiological study trying to identify factors associated with condom use and one of the factors identified was similar to a TPB component (subjective norm). The second study (Gilmore *et al.*, 1994) had a closer theoretical orientation. An elicitation procedure to identify beliefs about condom was followed, according to the theory of TPB. Nevertheless, these beliefs (resembling the behavioural belief component of the TPB) were the only theory-based factors used but were tested separately (not as a unified component) for predicting intentions. Additionally, data of both studies were derived from an incarcerated adolescent population. To the best of my knowledge, no systematic theory-based study has been conducted among adult inmates, regarding their sexual behaviour.

2.4.3.3 Drug use

In contrary with the amount of TRA/TPB research conducted in the area of sexual behaviour, only a handful of studies have been conducted using either of the two theories as a framework to explore drug use behaviour. In the context of TRA, Finnigan (1995) used qualitative methods (interviews) in order to elicitate the salient behavioural and subjective norm beliefs underlying heroin using behaviour in a small sample of 15 heroin users. Regarding the behavioural beliefs (the consequences of drug use), results showed

that IDUs greatly perceived the negative health and social outcomes resulting by their drug use. At the same time, drug use was associated with some very positive attributes (i.e. reducing boredom). With regard to normative beliefs (the identification of significant others), parents and partners were perceived as the most important salient referents in imposing pressure to take or not take drugs. Hawkins *et al.* (1999) investigated the role of peer influences (norms and behaviours) (they are represented by the subjective norm component of the TPB) in predicting the frequency of needle sharing and cleaning, among a sample of 642 IDUs. They found that subjects who reported observing more peer protective HIV-related behaviour were also more likely to report lower frequencies of HIV-risk behaviour and increased frequencies of HIV protective behaviour. Additionally, results indicated that peer norm variables were not associated with decreased HIV-risk behaviour. These findings indicated that peer behaviour rather than verbal persuasion appeared to influence injection practices. Conner and McMillan (1999) employed the TPB to investigate the factors underlying intentions and frequency of cannabis use among 249 students in U.K. In line with the theory, their results showed that both intentions predicted well actual use of cannabis and components of TPB (attitude, injunctive norms and perceived behavioural control) significantly predicted intentions. Additionally, habit strength and self-identity explained significant additional portions of the variance in intentions.

Overall, all of the three above-mentioned studies seem to be supportive of the theories. At the same time they ventilate significant predictors of behaviour over and above the theories' components. Nevertheless, they have serious limitations. The first study (Finnigan, 1995) describes a preliminary work necessary if the TRA is to be applied. It has not further examined either IDUs' evaluations of the outcomes or their motivation to comply with referent's pressure. Most importantly, it was not an actual test of the theory in the area of drug use. The second study (Hawkins *et al.*, 1999) investigated the role of only

one element of the TPB (subjective norm) without – as in the previous study - actually testing the theory as a whole in the area of drug use. Finally, the third study (Conner and McMillan, 1999), although constituted as a real test of the TPB in the area of addictions, it was applied only to cannabis use, a behaviour that although health-hazardous, is not related with HIV-risk. Despite my extensive search, I was not able to track down any published study having used either the TRA, or the TPB in the broader area of injecting drug use, obviously neither within the prison setting.

2.4.3.4 Evaluation of TPB

Overall, the TPB and its precedent the TRA provide frameworks for conceptualising, measuring and identifying factors that determine behaviours (Montaño *et al.*, 1997). These two theories have been tested in a wide range of behaviours with regard to their predictive strength and the results are generally supportive (Conner and Sparks, 1996). Nevertheless, several unresolved issues have emerged, i.e. the amount of variance in intention and/or behaviour accounted for by the predictor variable, the issue of compatibility, the role of attitudes to alternative behaviours and the role of control over the behaviour (Conner and Sparks, 1996; Manstead and Parker, 1995). Additionally, a number of candidate variables have been identified and suggested for addition to the TRA/TPB, following Ajzen's (1991) prompt. These variables include past behaviour (i.e. Sutton *et al.*, 1999), moral norms (i.e. Manstead and Parker, 1995) and affective outcomes (i.e. Richard *et al.*, 1995). Finally, suggested as crucial was the role of the broader social and structural factors (i.e. demographic variables) (Conner and Sparks, 1996).

A detailed evaluation report should be mentioned here, as it addresses in detail some of the above-unresolved issues. Manstead and Parker (1995) evaluated the TPB as applied in the domain of driving behaviour. Although they generally confirmed its predictive

power over the previous TRA, the researchers focused on the PBC element of the theory and questioned its causal impact on both intentions to commit a wide range of driving violations and the actual driving behaviour. From a methodological point of view, the researchers showed that, compared with a direct measure, the belief based measures of PBC made an independent significant contribution to the prediction of intentions of driving violations. Nevertheless, when both direct and belief based measures of TPB constructs were used simultaneously, it was shown that the former were better correlated with intentions, indicating that at least for attitude and subjective norm, they should be the measures of preference. At the same time, it was stressed that expansion to other behavioural domains is required in order to verify the most appropriate method of measurement. The same investigators (Manstead and Parker, 1995) expanding the theory reviewed the role of two constructs, "personal norms" and "affective evaluations of behaviour" in predicting intentions and behaviours. These two elements, not only don't belong to the TPB basic components, but also they are qualitatively different (that is, they depart from the rational cost-benefit analysis of behavioural choices underlying the TPB logic). Results showed that inclusion of both elements improved the predictive ability of the TPB, also confirming previous research (see Richard *et al.*, 1995, for the role of anticipated regret).

2.4.4 Critical evaluation of the studies with the SCMs

Although a remarkable number of studies using social cognition models have been conducted, most of them have been limited to the investigation of a particular model. Indeed, the studies with the Social Cognition Models presented in the above sections are in their majority individual, in the sense that they only tested the applicability or the predictive power of individual models. Some have called for a broader approach to

variable selection using several theoretical models (Basen-Engquist, 1992). Norman and Conner (1996) have provided a short review of work, which has sought to compare the predictive power of various models. The major comparisons reported are between HBM and TPB, as well as between HBM and Social Learning Theory (Bandura, 1992). Based on these studies, Norman and Conner concluded that models compared seemed to perform to a similar level, "...suggesting that there may be little to choose between them" (Norman and Conner, 1996, p.199). It is obvious that this conclusion is rather of limited as it was based on comparisons of only two models and of course does not cover the range of health behaviours covered by all social cognition models. Additionally, based on their review, Norman and Conner (1996) drew the conclusion that self-efficacy construct seemed to be a key predictor of health behaviour and could be included in social cognition models of health behaviours. For example, Carmel, (1990/91) has suggested the inclusion of a systematic set of potential determinants of behaviour, (i.e. the HBM together with constructs, such as "efficacy" and "social norms"), in order to enhance the predictive ability of the HBM.

Specific issues have emerged by the use of social cognition models. Firstly, issues related to the measurement of specific variables of the models. For example, the importance of measuring attitudes and behaviour at the same level of specificity has been stressed, in order to enhance the correlation between them (Ajzen and Fishbein, 1974, cf. to Norman and Conner, 1996). Lack of such a prerequisite, like in the case of the Health Locus of Control, may explain its poor predictive power. Other significant measurement issues reported are the way and the time behaviour is measured (there seems to be a need to measure behaviour as closely as possible to the time measuring cognitive variables and to use multiple items); the operationalisation of the models' constructs (i.e. this criticism is specifically relevant to the HBM); and the measurement of beliefs,

especially within the TPB (Norman and Conner, 1996). While all the social cognition models described in the above sections have been tested to a considerable extent, a range of additional variables have been suggested as potential predictors of health behaviours, including self-predictions, personal moral norms, anticipated regret and self-identity (Norman and Conner, 1996). Additionally, the role of past behaviour in relation to the current and future behaviour has also received significant attention, being suggested as an independent predictor. Additionally, it has been suggested that there may be qualitatively different stages in the initiation and maintenance of health behaviour, thus a need for stage models of the contemplation, initiation and maintenance of health behaviours has emerged (see Norman and Conner, 1996 for a brief presentation of two stage models). Finally, one step beyond the role of social cognition models (they are primarily concerned with people's motivations to perform a health behaviour) constitutes the work on the cognitive processes underlying the successful implementation of intention, that is the concentration to the volitional rather than motivational process (see Norman and Conner, 1996 for a discussion on this issue).

In the current study, I have not been able to address all of the above mentioned issues. Instead, I used some of the components of four social cognition models in an exploratory and an explanatory way in order to better understand the HIV-risk behaviour of a group of people – inmates – among whom relevant research is scarce. Thus, the aim of the current study was not to compare or contrast the specific social cognition models. However, within the study design I “followed” behaviour throughout the prison career – i.e. before incarceration, while in prison and intentions after release within the specific characteristics of my study population (IDUs). In so doing, I was able to assess at least past behaviour (e.g. taking drugs before incarceration and adopting precautionary measures re sexual behaviour) as a potential independent significant variable for

determining current (drug taking while in prison) and future behaviour (drug taking when released, adopting precautionary measures re sexual behaviour).

2.4.5 Relevant Greek Research

Unlike the situation in the international research field, in Greece, only one study has used Social Cognition Models for investigating health-related behaviours. More specifically, in the context of a pilot health education programme on blood donation applied in four high schools (Koulierakis *et al.*, 2000), an anonymous self-report questionnaire was distributed twice (before and one month after the implementation of the activities, which included blood donation, visits to Donation Units, group discussions on blood donation, happenings, e.t.c.) to all students participating in the programme (N = 997). The main aims of the study were to assess the level of students' knowledge on blood donation issues, to tap potential increases in knowledge after the implementation of the health education activities and to examine the predictive power of the Theory of Planned Behaviour on students' intentions to become systematic blood donors (to donate blood three times a year). Results from this study strongly supported the utility of the Theory of Reasoned Action in predicting and explaining blood-donating intentions among students over and above the knowledge alone. From the components of the TRA, subjective norms (the direct measure) had the greatest impact. That means that students paid significant respect to their significant others' (teachers, parents, classmates/friends) opinion with regard to blood donation. Nevertheless, unlike previous studies in the area (Giles and Gairns, 1995), this study failed to support the utility of the Theory of Planned Behaviour, as the addition of the perceived behavioural control variable resulted in no increase of the explained variance. Besides its obvious methodological constraints (lack of representatives, potentially inappropriate measuring of beliefs), this study is the only one in Greece ever

used a SCM in order to investigate a health-related behaviour.

Summary

In the last part of this Chapter, I described four Social Cognition Models – the Health Belief Model (Rosenstock, 1966; 1974); the Health Locus of Control (i.e. Wallston *et al.*, 1978); the Health Value (Lau *et al.*, 1986) and the Theory of Reasoned Action / Theory of Planned Behaviour (i.e. Ajzen, 1991). I additionally reviewed the relevant research focusing mainly on studies conducted in the era of HIV/AIDS.

The HBM is the most widely used psychosocial model of health behaviour. In the area of HIV/AIDS, the vast majority of studies, which have tested it, have dealt with the sexual behaviour of different groups (e.g. homosexuals, young adolescents) and the prediction of condom use among these populations, as a means of HIV prevention. Results in this area have showed that although some components of the HBM like *susceptibility and barriers*, proved to be predictors of HIV-preventive behaviours, the HBM alone seems to be an insufficient tool to predict such a complicated behaviour as sexual behaviour. On the other hand, a scarcity of studies has used the HBM in predicting HIV needle risk practices among IDUs, identifying barriers as the only (but weak) predictor of these practices. This rather poor performance of the model was attributed: a) to specific constructional problems of the model itself (i.e. lack of a link between the HBM components and health behaviours); b) its conceptual ambiguity; c) the methodological constraints on the use of the model through different studies (i.e. lack of reliability and validity tests); and d) the complexity of HIV/AIDS related behaviours (i.e. they are more than a volitional and individualistic activity).

The HLC construct has been used as a predictor of preventive behaviour, primarily

focusing on the correlation between Internal HLC and preventive actions. Research has focused on the relationship between HLC beliefs and participation in physical activity, alcohol consumption, breast self-examination, smoking cessation, weight loss and cancer-screening behaviours, while a few studies have been conducted within the AIDS field (Norman and Bennett, 1996). Generally, the results of research on these topics were in line with expectations derived from the theory. Internals were found to be more likely to take more responsibility for their health and well being. The major criticisms applied to these studies were that they had a diverse set of aims and adopted different methodologies and measures, while almost none of them have used a measure of health value in conjunction with the HLC construct. In any case, the HLC construct seemed to be a weak predictor of HIV/AIDS related behaviour, even when it interacted with the Health value measure.

The TPB has been tested in a wide range of behaviours with regard to its predictive strength and the results are generally supportive (Conner and Sparks, 1996). With regard to sexual behaviour, studies have produced mixed results, indicating differences in methodology applied, the measures used and the research questions posed. From the studies that used the TPB, several unresolved issues have emerged, i.e. the amount of variance in intention and/or behaviour accounted for by the predictor variable, the issue of compatibility, the role of attitudes to alternative behaviours and the role of control over the behaviour (Conner and Sparks, 1996). Additionally, a number of candidate variables have been identified and suggested for addition to the TRA/TPB, including past behaviour (Sutton *et al.*, 1999), moral norms (Manstead and Parker, 1995) and affective outcomes (Richard *et al.*, 1995). Finally, suggested as crucial was the role of the broader social and structural factors (i.e. demographic variables) (Conner and Sparks, 1996).

Overall, it seems that sexual behaviour in the context of HIV/AIDS has been

investigated to a great extent, within a theoretical perspective. Nevertheless, there is a lack of application of the SCMs in relation to IDU, especially in prison settings. Despite the fact that a) prison is perceived a high-risk environment, b) drug use constitutes the major risk factor for the transmission of HIV within prison, and c) prisoners constitute a captive audience who hold a potential for behaviour change, this lack of SCMs-driven studies identified in the literature could be considered remarkable and worthy of further attention.

single aimed to identify the determinants of risky behaviours while in prison.

More specifically, the research objectives aimed at this phase were the following:

- What was the prevalence of drug injection and sharing behaviour among Greek inmates?
- What was the proportion of IDU risk status (injection and drug sharing) among inmates?
- What were the differences between Injunctive Drug Users (IDUs) and non-IDUs in a number of demographic and personal factors?
- Among IDUs inmates, what was the evolution of drug use?
- Among IDUs, what were the differences between those who had been arrested and those who in prison and those who had not?
- Among IDUs, which factors predicted the drug use and sharing behaviour while in prison?

3.2 Subjects and method

In this phase, a representative sample of 1,000 native Greek men inmates from the main institutions was asked to participate. 507 men (50.7%) were contacted and subsequently analysed (response rate 50.7%). Data were gathered at the level of a self-report, anonymous questionnaire for demographic data, prison history, drug use,

CHAPTER 3: Aims - Research questions of the current study

3.1 Aims - Research questions (Phase 1)

The main aim of this phase of the study was to estimate the prevalence of HIV risk behaviours (drug injection and sharing behaviour and sexual activities) among Greek inmates, prior to imprisonment and within prison. Furthermore, the study at this stage aimed to identify the correlates of injecting behaviours while in prison.

More specifically, the research questions asked at this phase were the following:

- ◆ What was the prevalence of drug injection and sharing behaviour among Greek inmates?
- ◆ What was the prevalence of HIV risk sexual practices among Greek inmates?
- ◆ What were the differences between Intravenous Drug Users (IDUs) and non-IDUs inmates in a number of demographic and penal variables?
- ◆ Among IDUs inmates, what was the evolution of drug use?
- ◆ Among IDUs, what were the differences between those who had ever injected and shared while in prison and those who had not?
- ◆ Among IDUs, which factors predicted the drug use and sharing behaviour within prison?

3.2 Subjects and method

In this phase, a representative sample of 1,000 native Greek male inmates from ten adult institutions was asked to participate. 861 questionnaires were completed and subsequently analysed (response rate 86.1%). Data were gathered in the form of a self-report anonymous questionnaire for demographic data, penal history, drug use,

sharing injecting equipment and HIV risk sexual practices, before and during imprisonment. The questionnaire was completed by the participant inmates on a voluntary basis.

3.3 Aims - Research questions (Phase 2)

The main aim of the second phase of the study was twofold. First, to record prisoners' level of HIV/AIDS-related knowledge, attitudes and perceived risk. Then to investigate the associations of these variables with the HIV risk behaviours practised by inmates during their incarceration and as intended after their release. Additionally, to use some of the components of certain Social Cognition Models in an exploratory way in order to investigate whether these components could help to understanding inmates' HIV risk behaviours from a theoretical perspective. More specifically, the following research questions were posed during the second phase of the study:

1. What was the prevalence of inmates' sexual practices and relevant HIV risk precautions taken, before their incarceration, while in prison and (intentions) when released?
2. For those with a history of drug use (IDUs), what was the prevalence of relevant HIV risk precautions, before their incarceration, while in prison and (intentions) when released?
3. What was the level of HIV/AIDS related knowledge of Greek inmates? Were there any differences in knowledge between IDUs and non-IDUs inmates? What were the determinants of inmates' HIV/AIDS related knowledge?
4. What kind of attitude inmates held towards AIDS-related issues? Were there any differences in attitudes between IDUs and non-IDUs inmates? What were the underlying factors of inmates' attitudes? Was there any association between inmates' HIV/AIDS related knowledge and their attitudes?
5. What was the level of inmates' perceived risk and concern in relation to HIV/AIDS?

- Were there any differences in risk and concern levels between IDUs and non-IDUs inmates? Among members of each group (i.e. IDUs and non-IDUs), was there any relationship between perceived risk of HIV/AIDS or general health concern? How were inmates' perceptions of risk, concern, knowledge and attitudes associated?
6. Based on HBM theory, the following research questions were asked. How susceptible did inmates believe they were in relation to AIDS? How serious they thought, AIDS was? What were the benefits of adopting HIV/AIDS precautionary measures, both within prison and when released? What were the costs of adopting HIV/AIDS precautionary measures?
 7. What were the inmates' beliefs in relation to each of the three locus of control dimensions (internality, powerful others, chance)?
 8. How much did Greek inmates value their health? Was there any difference in locus of control perceptions between those inmates who placed high value on their health and those who placed low value?
 9. For IDUs inmates only, what were their beliefs in relation to avoiding drug use while in prison as described by the elements of the Theory of Planned Behaviour? (i.e. their intention, attitudes, subjective norm, perceived behavioural control, behavioural beliefs, outcome evaluation, normative beliefs and motivation to comply)?
 10. To what extent inmates' age, educational level, drug use status, their knowledge, attitudes, perceived risk, concern, HBM elements, MHLC elements, the value they place on their health and their behaviour before incarceration could predict their reported intentions to practice safe sexual practices when released? To what extent these independent variables could predict inmates' intentions to take specific precautions (i.e. regular condom use) in order to protect them from acquiring AIDS?
 11. For IDUs inmates only, to what extent could the Theory of Planned Behaviour be applied? More specifically: a) Was their drug use behaviour within prison predicted by their intention to avoid injecting drugs inside? b) Were their intentions predicted

- by their attitudes, subjective norms (TRA) and perceived behavioural control (TPB)? c) Was inmates' previous (before incarceration) drug use behaviour an independent predictor of their behaviour inside prison, over and above the elements of the TPB?
12. To what extent, demographic variables, HIV/AIDS-related knowledge, general attitudes towards HIV/AIDS, perceived risk, HIV/AIDS and health concern, HBM elements, MHLC elements, Health Value, and TPB elements could predict drug use while in prison?
13. For inmate injectors, to what extent knowledge, attitudes, perceived risk, concern, HBM elements, MHLC elements, Health Value, TPB elements and past behaviour (precautions before and during incarceration) could predict reported intentions to take precautions in relation to drug use in order to protect themselves from HIV/AIDS, when released?

3.4 Subjects and method

In the second phase of the study, a representative sample (N = 436) of the native Greek male population of the Judicial prison of Korydallos (the biggest in Greece) was invited to participate. After permission was granted, the selected were seen in privacy and offered a body of questionnaires (on knowledge, attitudes, perceived risk, components of the HBM, the MHLOC scale, the Health Value Scale, and components of the TPB) to fill in, together with an open envelope. All inmates were previously informed about the overall procedure of the study, they were offered assurances of anonymity and confidentiality, while the voluntary character of participation was particularly stressed. Those who did not want to take part were free to do so. As the questionnaires required time to be completed, inmates were asked to take them to their cells, to fill them in, and return the sealed envelope with the questionnaires to the researcher on his next visit to the prison (in two days). From the 436 invited inmates, 254 completed and returned the questionnaires (response rate

58.2%). Of the returned questionnaires, 12 were excluded from the analyses, because they contained logical errors or they hadn't been completed in the main, thus leaving 242 questionnaires to be analysed.

4.1 Introduction

A considerable body of international studies indicates that there is relatively high prevalence of drug use in prison (see § 2.1.5 in Chapter 2, for an extensive narrative review). There is also evidence that prison may act as a modifier of drug use behaviour, in the sense that IDUs 'get clean' but there more when they are in prison than in the community (Powell *et al.*, 1992; Jurekus *et al.*, 1993; Shewan *et al.*, 1994a, 1994b, 1995; Manns, 1995; Muller *et al.*, 1996; Taylor *et al.*, 1995; Langlois *et al.*, 1998). Relevant Greek data confirm that Greek IDUs do indeed report high-risk drug using practices such as sharing of needles and syringes (Makridakis, 1994, 1996), in line with earlier Greek studies with IDUs that also report high risk behaviour patterns during the group while at liberty (Gallant *et al.*, 1992).

Nevertheless, these few published studies on HIV risk behaviour of Greek IDUs while in prison have been mainly descriptive and based on relatively small samples derived either from IDUs treatment services and AIDS Referral Centres, or from inmates from one or two specific institutions which mostly had IDU inmates. No detailed study has been conducted until now at a national level. Given the information available concerning the relationship between sexual activity and substance use among inmates in Greek prisons, the present study attempts to rectify these shortcomings by conducting a survey of the prison population in Greece. In so doing the study aims to address the issues raised by similar studies conducted in other European and North American centres and in a manner that is as far as possible based on this nation's situation. In this section a overview of the socio-cultural background of the study is provided before the onset of the main study, and the data from the pilot study

CHAPTER 4: Phase 1: Injecting drug use amongst inmates in Greek prisons

4.1 Introduction

A considerable body of international studies indicates that there is relatively high prevalence of drug use in prison (see § 2.1.5 in Chapter 2, for an extended literature review). There is also evidence that prison may act as a modifier of drug use behaviour, in the sense that IDUs inject less but share more when they are in prison than in the community (Power *et al.*, 1992; Turnbull *et al.*, 1992; Shewan *et al.*, 1994a; 1994b; 1995; Marins, 1995; Müller *et al.*, 1995; Taylor *et al.*, 1995; Singleton *et al.*, 1998). Relevant Greek data confirm that Greek IDUs in custody report high-risk drug using practices such as sharing of syringes and needles (Malliori *et al.*, 1994, 1998a), in line with earlier Greek studies with IDUs that also report high risk behaviour patterns among this group while at liberty (Kokkevi *et al.*, 1992).

Nevertheless, these few published studies on HIV risk behaviours of Greek IDUs while in prison have been mainly descriptive and based on relatively small samples derived either from IDUs treatment services and AIDS Reference Centres, or from inmates from one or two specific institutions, which mostly hold IDU inmates. No detailed study has been conducted until now on a national level. Given the limited data available concerning the relationship between criminal activity and patterns of IDU among inmates in Greek prisons, the present study attempts to rectify these shortcomings by conducting a survey of the penal population in Greece. In so doing this study aims to address the issues raised by similar studies conducted in other European and North American centres and in addition attempts to do so on a national basis. In this section is presented the data of the familiarisation phase, which was conducted before the onset of the main study, and the data from the main study

regarding the extent of injecting drug use amongst inmates in Greek prisons. Also presented is comparative data between IDUs and non-IDUs on a number of demographic and penal variables. Finally, data is presented on the evolution of drug use over time, among injector inmates.

4.2 The familiarisation phase

4.2.1 Procedure

Following approval of all sectors of the study by the Ethics Committee of the Department of Psychology, University of Stirling and after the permission for conducting the study in Greek prisons was granted by the Greek Ministry of Justice, in April 1994, a "familiarisation visit" to one institution was planned and paid, before the onset of the main study. This visit aimed to explore a number of issues in relation to the broader subject of HIV risk behaviours in prisons. It was thought this might be achieved by interviewing a number of prisoners on issues related to HIV/AIDS and prison life.

A visit was paid to the Closed Prison of Corfu. The selection of this particular prison was made for three reasons: a) Its governor was the first to reply to my letter which informed about the research and he was very positive to help in the study. b) There was a personal acquaintance with the governor. c) The particular prison had the highest security category of prisoners and was considered the "hardest" prison in Greece. Under these circumstances, the pilot interviews could be undertaken within the most appropriate context (privacy, unlimited time available, plus all the personnel of the prison available to facilitate the procedure).

As this was a familiarisation phase, no strict criteria of selecting prisoners for the interview were defined. Prisoners were selected from two broad categories: those working and those not working. The procedure was as following: Prison officers announced one day before the beginning of the interviews that volunteers were requested to talk to a psychologist about HIV/AIDS. Then a volunteer from each

section was escorted to the interview office. In total eight prisoners were interviewed. Six of them were lifers and had been convicted for homicide. One was an IDU, convicted for 3 years of imprisonment and he was to be released in one month. The last was convicted for robbery. Their mean age was 40.5 years. Four of them had only Primary education, two had Secondary education and two were of Higher education. The interviews were not tape-recorded.

4.2.2 Analysis

Presented below is a content analysis of the interviews, divided into the following categories:

AIDS within prisons - Knowledge of HIV/AIDS

It seemed that the AIDS problem 'did not exist' in the context of prison. Prisoners interviewed knew only that AIDS was a disease contracted by sexual contact and sharing injecting drug equipment. There were no leaflets, books or a magazine about AIDS available in the prison's library and the only sources of information about AIDS for prisoners were T.V. and newspapers. Those interviewed mentioned that the presence of an HIV/AIDS researcher in the prison did not cause any interest and that was a reason for the limited number of volunteers. None of them knew personally a person infected by HIV. Only one inmate reported that he had heard that an IDU inmate, whom he knew personally, had died because of AIDS. Nevertheless, the inmates' limited personal acquaintance with people with AIDS is understandable, as the Greek Law defines that if an HIV+ prisoner is identified, he/she is sent to the prisons' hospital. Greek Law also releases all prisoners who are AIDS patients. Additionally, HIV testing is not compulsory for any inmate on entrance to prison.

AIDS worry - Risk of HIV infection

AIDS was not considered a serious enough problem to disturb inmates and make them worry. It seemed very "distant" to them. The everyday life within the prison,

the (perceived) injustice reflected in the strict penalties imposed on them, the management of their time (for lifers) and their future after release were the most important and urgent problems and put as their first priority. For those interviewed, the 'outside world' was more dangerous for HIV infection than the prison, as outside there were much more situations in which one could be exposed to HIV (i.e. one had more opportunities to have sex). In prison the danger was only in relation to injecting drug use. The limited threat from sexual activities were considered as an abnormality and not approved.

AIDS and Drugs

Drugs seemed to be the core problem for the whole prison system. According to those interviewed, drugs were easily available in prisons, even in the highest security prison. The biggest problem seemed to exist in Korydallos prison, in Athens, which was considered as the centre of drug distribution and use within the Greek prison system. According to reports, any prisoner who wanted access to drugs and couldn't find drugs in his current institution, arranged to be called as a witness in Athens, where he stayed for some days in Korydallos prison, where he acquired access to drugs and then went back again to his previous prison.

Within Greek prisons, it is illegal to possess injecting equipment, while no needle exchange programme has ever been applied. Sharing was therefore considered as a common practice among those injecting. One interviewee reported a case of sharing of one syringe with 350 IDUs. Although this claim was most probably exaggerated, it was indicative of inmates' perceptions of the drug use problem in prison. According to interviewees' reports, IDUs used to clean their equipment using the following ways: They rinsed the works with tap water (the commonest way because it is easy and quick). They cleaned them with spirit or disinfectant liquid (not always available, because prisoners had to provide the prison doctors with a good reason for requiring spirit or disinfectant). They boiled the works in water. They left the works for 5

minutes 'in the air', as there was the belief that the viruses will die when exposed to the air.

All prisoners interviewed were in favour of separating IDUs from other offenders. They believed that given the current situation (where all offenders were housed together) it was very easy for someone who was not a drug user to start injecting drugs. This could happen because prison life was very difficult and drugs offered a (false) escape, especially for those with a weak personality. Furthermore IDUs were perceived as 'dirty' and 'weak' and regarded as lowly by other inmates. I should mention here that the separation of prisoners seemed to be the political will of the government and procedures had already started to put segregation into practice. Within the Greek penal system, there is a tendency, for those charged or convicted for violation of the Drug Law to be consider for transfer to the Judicial Prison of Patras, although not all IDUs are housed in this institution.

AIDS and Sexuality

All prisoners interviewed were not in favour of sexual relations within prisons. They did not deny the existence of such relationships but they claimed that they were practised rarely and only among particular groups of inmates. First of all, among homosexuals ("sissies"), who are usually housed in the Closed prison of Larisa, in the context of an unofficial "protection" policy. Then, among young offenders - not necessarily homosexuals - who were not considered as "strong" enough to face prison life and -on entrance to prison -are subjected to a type of protection, paid with sex. To a lesser extent, IDUs practised homosexual activities in order to obtain drugs. A last category of offenders who might practice homosexual activities were those who had committed sexual crimes, who were also housed in the Closed prison of Tripolis. Overall, it seemed that HIV infection through the 'sexual route' is not considered as highly probable within prison, especially when compared with the 'drug route'.

4.3 Sample selection / Descriptives (the main study)

Following this familiarisation phase, I then proceeded to Phase 1 of the main study design. This was conducted from October 1995 to June 1996. Using 'prison' as the initial sampling frame, the ten male institutions from all prison types with the largest number of prisoners were selected and offered participation in the self-report study of all Greek inmates. At the same time, special attention was paid in order to select prisons with specific types of inmates (i.e. the Judicial Prison of Tripolis, where inmates who have committed sexual offences are overrepresented). The sample was therefore representative of the total male inmate population in terms of the type of prison ('Closed', 'Judicial', 'Rural') and the type of inmate ('Remand', 'Convict'). As regards the representativeness of the sample in relation to the entire Greek male population, Table 4.1 illustrates the number 'N' and percentage of prisoners in the study sample (%) by type of prison category, in comparison to the percentage of prisoners by prison category for the entire male population [%]. The small differences in study sample (%) versus prison population percentages by study category [%] are due to the fact that participation of inmates in the study was voluntary, so it was difficult to achieve the exact population quotas in the sample.

Table 4.1: Number 'N' and percentage of prisoners in the study sample (%) by type of prison category in comparison to the percentage of prisoners by prison category for the entire male population [%]

Type of prison	Type of prisoners						Total		
	Convict			Remand			N	(%)	[%]
	N	(%)	[%]	N	(%)	[%]			
Closed	143	(16.6)	[21.8]	23	(2.7)	[3.5]	166	(19.3)	[25.4]
Judicial	348	(40.4)	[37.8]	230	(26.7)	[26.6]	578	(67.1)	[64.3]
Rural	117	(13.6)	[10.3]	0	(0)	[0]	117	(13.6)	[10.3]
Total	608	(70.6)	[69.8]	253	(29.4)	[30.1]	861	(100)	[100]

In total, 1,000 Greek male inmates were asked to participate. A total of 861 completed questionnaires were gathered and included in the analysis (response rate 86.1%). Females, who represented 3.8% of the total number of Greek inmates, were not included in this study, as the primary researcher was not allowed to enter the main female institution due to unspecified bureaucratic reasons.

Table 4.2 shows inmates' distribution in relation to demographic (age) and penal variables (onset and duration of current sentence, number of previous sentences the total time spent in prison and type of crime committed).

The mean age of the sample was 37.3 years (SD = 10.9 years). 299 of the 861 inmates (34.7%) were currently in prison due to drug offences, while 226 (26.2%) were imprisoned due to property offences (thefts, robberies etc.). More than half of all inmates (468, 54.3%) were in prison for their first time, while 78 inmates (9.0%) had been sentenced more than 5 times in the past, besides the current sentence. Almost one-third of the inmates (256, 29.7%) had in total spent 1-3 years in prison, while almost one-fourth (210, 24.4%) had been in prison for 4-7 years. Finally, excluding the 298 remand inmates, 434 out of 534 convicts (81.3%) were serving a current sentence of more than 3 years.

Table 4.2: Inmates' (N=861) distribution on demographic and penal variables

	N	(%)
Age*		
< 24	74	(8.6)
25-34	310	(36.0)
35-44	262	(30.4)
45-54	129	(15.0)
55+	69	(8.0)
Duration of current sentence		
Remand	298	(34.6)
< 3 months	6	(0.7)
3-6 months	7	(0.8)
7-11 months	17	(2.0)
1-3 years	70	(8.1)
3+ years	434	(50.4)
Beginning of current sentence		
Remand	298	(34.6)
Before 1983	6	(0.7)
1983-1986	18	(2.1)
1987-1990	72	(8.4)
After 1991	443	(51.5)
Offence		
Against life	124	(14.4)
Against property	226	(26.2)
Financial	84	(9.8)
Drug related	299	(34.7)
Sexual	45	(5.2)
Specific laws	36	(4.2)
Other	16	(1.9)

* Mean: 37.3 years; SD = 10.9 years

Table 4.2 (cont.): Inmates' (N=861) distribution on demographic and penal variables

	N	(%)
Sentences in the past		
None	468	(54.4)
One	170	(19.7)
2-4	136	(15.8)
more than 5	78	(9.1)
Total time in prison		
< 3 months	71	(8.2)
3-6 months	77	(8.9)
7-11 months	112	(13.0)
1-3 years	256	(29.7)
4-7 years	210	(24.4)
8-12 years	93	(10.8)
more than 12 years	36	(42.0)

4.4 Measures (Adaptation in the Greek prison setting / Problems)

A two pages self-completed questionnaire was used. The questionnaire construction was based on previous research in the area conducted in Scottish prisons (Power et al., 1992; Bird et al., 1992). The questionnaire included demographic variables (inmates' age); penal variables (onset and duration of current sentence, number of previous imprisonments, total time spent in prison, type of crime committed); drug use variables (inmates' drug injecting and sharing behaviour prior to and during imprisonment); sexual behaviour variables (number of sexual partners prior to and during imprisonment, paid sexual intercourse); finally, there were two questions regarding HIV testing outside prison and hospitalisation for STDs. The questionnaire was translated in Greek and piloted in a group of 100 inmates in the Correctional

Prison of Korydallos, in Athens. The pilot study allowed me to verify the procedure of conducting the research and to adjust the wording of some questions to the prison language, in order to ensure that the questions were understandable for inmates. Both the Greek and English (translated) version of the questionnaire is presented in the APPENDIX 2.

4.5 Procedure

The procedure of recruiting was not the same in all selected prisons because of their different structure, type and security level. In six prisons (Korydallos, Patra, Kerkyra, Halkida, Larisa and Thessaloniki) where inmates were kept in clearly separate sections, according to the crime committed, a sampling by section took place, selecting inmates randomly within each section. In the remaining four institutions, inmates were selected from the total of the individual prison population, as inmates were not segregated in separate sections. In the Correctional Prison of Larisa, inmates were recruited by social workers of the institution, as the researcher was not allowed to enter the prison at that particular period because of security reasons. Nevertheless, the researcher was able to meet with the social workers in question in order to explain in detail the methodology and the procedure required distributing and gathering the questionnaires.

Inmates were seen in privacy either individually or in some institutions in groups. Prior to their participation all inmates were informed about the purpose of the study, the type of information that they would be asked to provide and the overall procedure of the study. Assurances of anonymity and confidentiality were also given. The voluntary character of participation in the study was particularly stressed. Those inmates who didn't want to take part were free to leave. Then the researcher gave inmates the questionnaire together with an open envelope and asked them to complete it, put it in the envelope, seal it and give it back to the researcher. The researcher was

available throughout the period of questionnaire completion in order to provide clarifications whenever this was necessary. The time required for the completion of the research in each institution ranged from one day to three months according to the size of the prison.

4.6 Analyses

The statistical analysis in this phase of the study was undertaken by univariate (Chi-squared) analysis and modelling the data through multiple logistic regression (Hosmer and Lemeshow, 1989) using SPSS statistical package (version 8.0, SPSS Inc., Chicago).

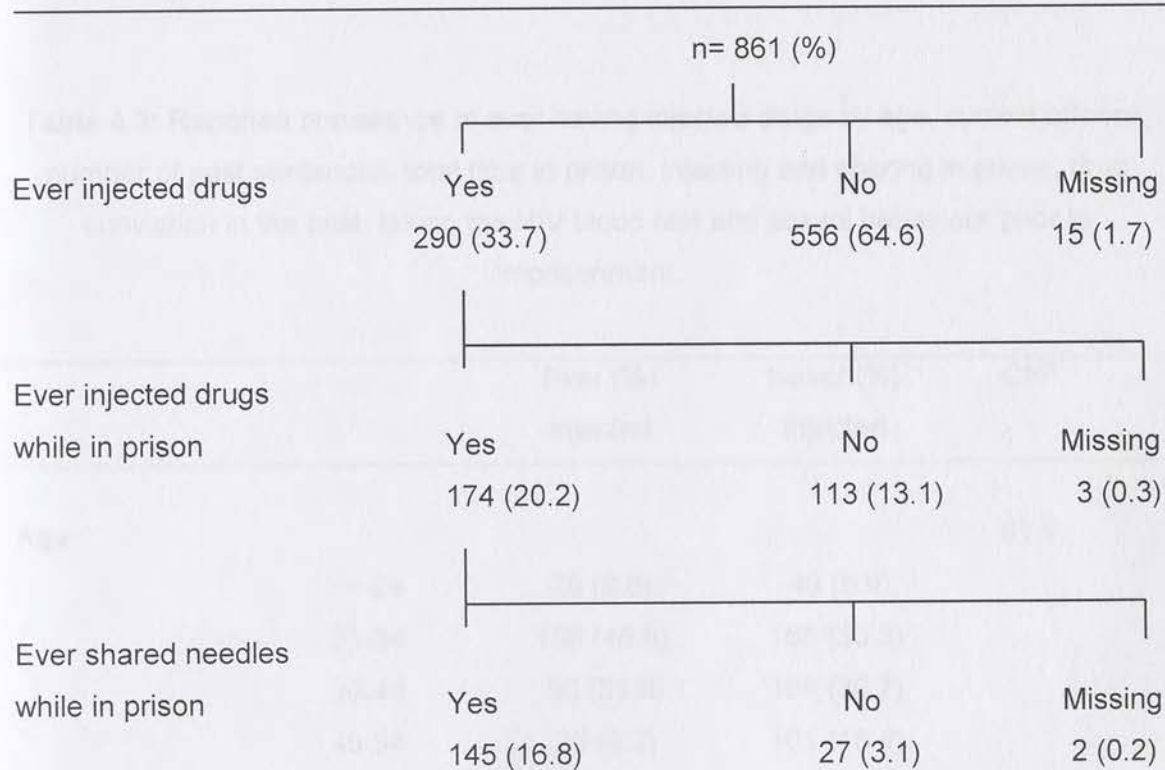
4.7 Results

Chi square test (χ^2) were used to compare the two groups of inmates (those inmates who had ever injected drugs vs. those who had never injected) in relation to the variables included in the questionnaire.

Drug use

The pattern of injecting drug use behaviour of all inmates and the pattern of drug use and sharing behaviour within prison - not necessarily during their current sentence, but during any past or present sentence - is shown in Figure 4.1.

Figure 4.1: Injecting drug use behaviour of 861 inmates during periods of imprisonment



As can be seen in Figure 4.1, from the 861 inmates, 290 (33.7%) reported that they had injected drugs sometime in their lives. 174 inmates (20.2%) reported having injected drugs, sometime during their past or current imprisonment, while 145 (16.8%) reported that they had shared injecting equipment while past or current imprisonment.

Table 4.3 reports the prevalence of ever having injected drugs by inmates' age, current offence, number of past sentences, total time in prison, injecting and sharing in prison, drug conviction in the past, taking the HIV blood test and sexual behaviour prior to imprisonment. As Table 4.3 shows, drug use is more common among younger inmates; 163 out of 283 (57.6%) of IDUs are younger than 35 years, compared with 215 out of 548 (39.2%) non-IDUs ($\text{Chi}^2 = 51.9$; $\text{df} = 4$; $p < 10^{-5}$). Of the 532 non-IDUs who were willing to divulge their current offence, 140 (26.3%) were in prison charged with a drug-related offence and 135 (25.4%) charged with an offence 'Against property'; however, this proportion rose to 54.7% (156/285) and 30.5% (87/285) respectively among IDUs. Conversely, 19.2% of non-IDUs (102/532) compared with

only 6.3% of IDUs (18/285) had been charged with offence Against life ($\text{Chi}^2 = 104.5$; $\text{df} = 6$; $p < 10^{-5}$).

Table 4.3: Reported prevalence of ever having injected drugs by age, current offence, number of past sentences, total time in prison, injecting and sharing in prison, drug conviction in the past, taking the HIV blood test and sexual behaviour prior to imprisonment.

	Ever (%) Injected	Never (%) Injected	Chi ²	p <
Age			51.9	10 ⁻⁵
< 24	25 (8.8)	49 (8.9)		
25-34	138 (48.8)	166 (30.3)		
35-44	90 (31.8)	168 (30.7)		
45-54	26 (9.2)	101 (18.4)		
55+	4 (1.4)	64 (11.7)		
Total	283 (100.0)	548 (100.0)		
Current Offence			104.5	10 ⁻⁵
Against life	18 (6.3)	102 (19.2)		
Against property	87 (30.5)	135 (25.4)		
Financial	5 (1.8)	78 (14.7)		
Drug related	156 (54.7)	140 (26.3)		
Sexual	8 (2.8)	37 (7.0)		
Specific laws	7 (2.5)	29 (5.5)		
Other	4 (1.4)	11 (2.1)		
Total	285 (100.0)	532 (100.0)		
Sentences in the past			155.9	10 ⁻⁵
None	75 (26.3)	385 (69.5)		
One	76 (26.7)	91 (16.4)		
2 - 4	81 (28.4)	53 (9.6)		
more than 5	53 (18.6)	25 (4.5)		
Total	285 (100)	554 (100.0)		

Table 4.3 (cont.): Reported prevalence of ever having injected drugs by age, current offence, number of past sentences, total time in prison, injecting and sharing in prison, drug conviction in the past, taking the HIV blood test and sexual behaviour prior to imprisonment.

	Ever (%) Injected	Never (%) Injected	Chi ²	p <
Total time in prison			38.6	10 ⁻⁵
< 3 months	10 (3.5)	61 (11)		
3-6 months	13 (4.5)	63 (11.4)		
7-11 months	34 (11.8)	75 (13.6)		
1-3 years	85 (29.6)	166 (30)		
4-7 years	84 (29.3)	124 (22.4)		
8-12 years	45 (15.7)	45 (8.1)		
more than 12 years	16 (5.6)	19 (3.4)		
Total	287 (100)	553 (100.0)		
Injection in prison			422.2	10 ⁻⁵
YES	174 (60.6)	0 (0.0)		
NO	113 (39.4)	552 (100.0)		
Total	287 (100.0)	552 (100.0)		
Sharing in prison			340.1	10 ⁻⁵
YES	146 (51.0)	0 (0.0)		
NO	140 (49.0)	550 (100.0)		
Total	286 (100.0)	550 (100.0)		
Drug conviction in the past			279.0	10 ⁻⁵
YES	169 (58.7)	36 (6.5)		
NO	119 (41.3)	516 (93.5)		
Total	288 (100.0)	552 (100.0)		
Taking the HIV blood test			21.8	10 ⁻⁵
YES	105 (42.9)	128 (25.9)		
NO	140 (57.1)	366 (74.1)		
Total	245 (100.0)	494 (100.0)		

Table 4.3 (cont.): Reported prevalence of ever having injected drugs by age, current offence, number of past sentences, total time in prison, injecting and sharing in prison, drug conviction in the past, taking the HIV blood test and sexual behaviour prior to imprisonment.

	Ever (%) Injected	Never (%) Injected	Chi ²	p <
Sex with women prior to imprisonment			22.8	10 ⁻⁵
NONE	82 (28.9)	241 (43.7)		
ONE (1)	54 (19.0)	102 (18.5)		
2 - 5	82 (28.9)	133 (24.1)		
6 - 10	27 (9.5)	28 (5.1)		
More than 11	39 (13.7)	47 (8.5)		
Total	284 (100.0)	551 (100.0)		

A striking characteristic of IDUs is the multiplicity of previous sentences and the length of total time imprisoned. Of the 285 IDUs who took part, 53 (18.6%) had been in prison five or more times before their current sentence and 81 (28.4%) had previously been in prison 2-4 times; these proportions fall dramatically among non-IDUs: only 4.5% of the non-IDUs (25/554) were previously in prison five or more times and 9.6% of them (n=53) 2-4 times (Chi² = 155.9; df = 3; p < 10⁻⁵). Regarding the total time spent in prison, more than half of IDUs (145/287, 50.6%) have spent 4 or more years in prison, compared with 33.9% (188/553) of the non-IDUs (Chi² = 38.6; df = 6; p < 10⁻⁵). As can also be seen in Table 4.3, from the sub-sample of 287 injectors 174 (60.6%) (20.2% of the total sample) had injected sometime while in prison and 146 (51.0%) (16.9% of the total sample) had shared injecting equipment sometime while in prison. Only 36 of the 552 non-IDUs (6.5%) had been convicted for drug related offences in the past, excluding current conviction; this proportion rising dramatically to 58.7% (169 out of 288) among IDUs (Chi² = 279.0; df = 1; p < 10⁻⁵). There were thirty-six inmates who had never injected, but previously had been convicted for drugs.

Regarding the issue of having requested an HIV blood test prior to imprisonment, the first 100 inmates of the sample were excluded from this question; this happened because some of these 100 inmates had participated in a health screening project, in which a voluntary HIV test was offered to all inmates within a specific prison. Thus, in total, 233 inmates out of the 739 who provided information (31.5%) had taken an HIV blood test outside prison. Nevertheless, no data regarding the actual rates of HIV positive prisoners within the sample are available in this phase, since inmates were not asked about the result of the HIV test as this was deemed to be ethically unacceptable in the present study. The percentage of those inmates who took an HIV blood test was significantly higher among IDUs (105/245, 42.9%) than non-IDUs (128/494, 25.9%) ($\text{Chi}^2 = 21.8$; $\text{df} = 1$; $p < 10^{-5}$).

Regarding sexual behaviour one year prior to their incarceration, of the 284 IDUs, 66 (23.2%) had sex with more than five women other than their wives or regular partners; the comparative figure was 13.6% (75/551) for non-IDUs. ($\text{Chi}^2 = 22.8$; $\text{df} = 4$ $p < 10^{-5}$).

Drug use over time

Questions 8 and 9 of the questionnaire ('In which year did you **first** inject?' and 'In which year did you **last** inject?') when combined provided two sub-groups of inmates: The first group (old users) included 74 inmates who reported that they had first injected before 1982 and continued to inject after 1992; that is, they were regular injectors for at least ten years. The second group (new users) included 46 inmates who reported that they had first injected after 1992 and continued to do so thereafter; that is, they were regular injectors for a maximum period of four years at the time of the study. The study attempted to examine whether there were any differences between these two groups in terms of demographic, penal, drug use and sexual behaviour variables.

As Table 4.4 shows, the two groups expectedly differ in terms of age; 68% (49 out of 72) of the 'old users' are aged more than 35 years, compared with 31.1% (14/45)

of 'new users' ($\text{Chi}^2 = 18.7$; $\text{df} = 4$; $p < .005$). Of the 74 'old users', 15 (20.3%) were in prison due to offences 'Against property' and 51 of them (68.9%) for drug related offences. On the contrary, almost half of the 'new users' (21 out of 46, 45.7%) were in prison for offences 'Against property' and 37% (17/46) for drug related offences ($\text{Chi}^2 = 14.2$; $\text{df} = 6$; $p < .05$). As might be expected, a characteristic of 'old users' is the multiplicity of previous imprisonments. Of the 72 'old users', 49 (68%) had served between two and five sentences in the past. This proportion falls to 34.8% among 'new users' (16/46) ($\text{Chi}^2 = 15.2$; $\text{df} = 3$; $p < .005$).

Table 4.4: Drug use over time by age, current offence and previous imprisonments.

	Old users (%)	New users (%)	Chi ²	p <
Age			18.7	.005
< 24	2 (2.8)	8 (17.8)		
25-34	21 (29.2)	23 (51)		
35-44	32 (44.4)	11 (24.4)		
45-54	15 (20.8)	3 (6.7)		
55+	2 (2.8)	0 (0.0)		
Total	72 (100.0)	45 (100.0)		
Current Offence			14.2	.05
Against life	5 (6.8)	5 (10.9)		
Against property	15 (20.3)	21 (45.7)		
Financial	1 (1.4)	1 (2.2)		
Drug related	51 (68.9)	17 (37.0)		
Sexual	1 (1.4)	1 (2.2)		
Specific laws	1 (1.4)	0 (0.0)		
Other	0 (0.0)	1 (2.2)		
Total	74 (100.0)	46 (100.0)		
Sentences in the past			15.2	.005
None	10 (13.9)	18 (39.1)		
One	13 (18.1)	12 (26.1)		
2 - 4	25 (34.7)	11 (23.9)		
more than 5	24 (33.3)	5 (10.9)		
Total	72 (100.0)	46 (100.0)		

As can be seen in Table 4.5, 55 out of 73 'old users' (75.3%) had previously been accused of drug related offences and 50 out of 73 (68.5%) had been convicted of

such offences. The proportion falls to 37% (17/46 accused) and 34.8% (16/46 convicted) respectively among 'new users' ($\chi^2 = 17.4$; $df = 1$ $p < 10^{-5}$; $\chi^2 = 12.9$; $df = 1$; $p < 10^{-5}$).

Almost three-quarters of 'old users' (53/73, 72.6%) admitted that they had injected while in prison and 62.5% (45/72) that they had shared while in prison. On the other hand, half of the 'new users' (23/46, 50%) admitted injection in prison and 39.1% (18/46) admitted sharing in prison respectively ($\chi^2 = 6.2$; $df = 1$ $p < .05$; $\chi^2 = 6.1$; $df = 1$; $p < .05$).

Once again, I should mention here the exclusion of first 100 inmates of the sample from this question due to their participation in a health-screening project, in which a voluntary HIV test was offered to all inmates within a specific prison. Thus, less than half (29 out of 63, 46%) of 'old users' had taken a blood test for HIV, compared with almost one quarter (11 out of 43, 25.6%) of 'new users' ($\chi^2 = 4.5$; $df = 1$ $p < .05$).

YES	20 (31.7%)	18 (41.9%)
NO	33 (50.0%)	25 (58.1%)
Total	73	63

4.5.3. Taking the HIV blood test

YES	29 (46.0%)	11 (25.6%)
NO	34 (54.0%)	32 (74.4%)
Total	63 (100%)	43 (100%)

4.5. Discussion

Interpreting these results and putting them in context with previous research indicates that the overall prevalence of injecting drug use is high, and the rates of sharing are also high. This is particularly true for 'old users' who have been in prison for a long time. The results also suggest that 'new users' are more likely to be injecting and sharing in prison, and that they are less likely to have taken an HIV blood test. This is likely due to the fact that 'new users' are more likely to be in prison for a shorter period of time, and therefore less likely to have had access to health services. It is also possible that 'new users' are more likely to be in prison for a shorter period of time, and therefore less likely to have had access to health services.

Table 4.5: Drug use over time by injecting and sharing in prison, drug conviction in the past and taking the HIV blood test

	Old users (%)	New users (%)	Chi ²	p <
Injection in prison			6.2	.05
YES	53 (72.6)	23 (50.0)		
NO	20 (27.4)	23 (50.0)		
Total	73 (100.0)	46 (100.0)		
Sharing in prison			6.1	.05
YES	45 (62.5)	18 (39.1)		
NO	27 (37.5)	28 (60.9)		
Total	72 (100.0)	46 (100.0)		
Drug accusation in the past			17.4	10 ⁻⁵
YES	55 (75.3)	17 (37.0)		
NO	18 (24.7)	29 (63.0)		
Total	73 (100.0)	46 (100.0)		
Drug conviction in the past			12.9	10 ⁻⁵
YES	50 (68.5)	16 (34.8)		
NO	23 (31.5)	30 (65.2)		
Total	73	46 (100.0)		
Taking the HIV blood test			4.5	.05
YES	29 (46.0)	11 (25.6)		
NO	34 (54.0)	32 (74.4)		
Total	63 (100.0)	43 (100.0)		

4.8 Discussion

Interpreting these results and putting them in direct comparison with similar previous European research and the limited Greek data available requires caution, given the diversity of prison samples and the different methods used in many studies. Especially with regard to Greece, the published research to date has used samples of injecting drug users either from treatment services in Athens and/or from only two prisons situated in Athens and Patras.

Drug users seem to constitute a substantial part of the penal population in Greece. In this study inmates were asked to specify during which year they had first injected, if ever. The data suggest that more than one-third (33.6%) of inmates in Greek prisons reported having injected drugs sometime in their lives. Despite the fact that this question was general; in that information was not required the place of onset (i.e. within or outside prison) of injecting behaviour, and/or whether the injecting behaviour was continuous since its onset; the overall percentage of IDU among inmates of Greek prisons is roughly at the same level of those other European countries that have known high rates of IDU in prisons (Harding 1990; Shewan *et al.*, 1994). However, other European countries that have high levels of IDU in prison are also characterised by high rates of IDU in the wider community. This does not appear to be a feature associated with IDU in the wider Greek community, where IDU is considerably lower than in many other European countries (Malliori *et al.*, 1994).

Drug users in the current study were characterised by multiple previous sentences as well as long periods of imprisonment. These results confirm a previous Greek study (Kokkevi *et al.*, 1993) on the association between drug abuse and criminality. Furthermore, the fact that the 'old drug users' group in our study (those who were regular injectors for at least ten years) also report multiple sentences in the past indicates that this association is continuous and well established.

High levels of HIV risk behaviours among injecting drug users are indicated in the current study. Sixty (60) per cent of the sub-sample of drug injectors in Greek prisons - almost 20% of all inmates - reported that they have sometime injected while in prison; additionally, 50 per cent of them - almost 17% of all inmates - reported that they have shared injected equipment while in prison. Even if the IDUs group was split in 'old' and 'new' users, these high levels of risk behaviour are also apparent in both sub - groups. These rates of HIV risk behaviours are certainly comparable with those reported by Bird *et al.* (1997) and Rotily *et al.*, (1994), although far higher than those reported by Power *et al.* (1992a) for Scotland. Nevertheless, being in prison does not

necessarily mean that IDUs will engage in risk behaviour (Dolan, 1997). A number of surveys suggest that IDUs in general are more likely to stop injecting than continue while in prison (Power *et al.*, 1992a; Shewan *et al.*, 1994). However, for those who continue to inject in prison, the majority will indulge in sharing equipment (Jürgens, 2000; Jacob and Stöver, 2000). These changes in the drug use pattern are easily identified when a study is designed in such a way that investigates high risk drug use behaviour on a continuum, for example, how an IDU behaves in the community and then while imprisoned. This was not the aim of the present study, thus I am not able to determine whether the level of equipment sharing among IDUs is higher during imprisonment than when these individuals are at liberty. Nevertheless, recent Greek data show that there is a clear effect of imprisonment on the behaviour of drug users. Malliori *et al.* (1998a) found that Greek IDUs inject less but share more when they are within prison than when they are outside. In the current study, the period 'within prison' did not necessarily refer to the current period of imprisonment, in order to avoid the reluctance of inmates to provide this piece of information for fear of disciplinary action or prosecution. Nevertheless, the fact that the sub - group of injecting drug users in this study is characterised by a multiplicity of previous sentences and a long duration of total time in prison, makes the reported rates important in the Greek context. This is because Greece is presently regarded as having lower HIV prevalence rates both among drug users in the community and within prison setting (Papaevangelou *et al.*, 1991; Malliori *et al.*, 1994). However, if the prevalence rate among IDUs in prison were to rise marginally the high risk injecting behaviour associated with this group, this would provide fertile ground for the spread of the virus. The disastrous impact of having one HIV seropositive IDU among a group of injectors who share injecting equipment has already been highlighted in Scottish prisons (Taylor *et al.*, 1995).

Although the present study didn't show any significant level of sexual activity within prison, it indicated high levels of risky sexual behaviour prior to imprisonment among drug users; a substantial proportion of them (52.1%, {42.7% for all inmates})

reported more than two sexual contacts with women other than their wives or regular partner in the one year prior to their current incarceration. These rates are considerably higher than those reported for drug users in other European countries (Carvell and Hart, 1990; Rotily *et al.*, 1994). Furthermore, a significant proportion of IDUs in Greek prisons appear to be especially at risk of HIV sexual transmission as 23% had sexual intercourse with more than five partners in the year prior to imprisonment. This level of HIV sexual risk behaviour is much higher than has hitherto been reported in the literature regarding sexual behaviour prior to incarceration.

Despite being characterised by high risk sexual behaviour prior to imprisonment and high risk injecting behaviour prior to and especially during imprisonment, our results indicate (at least indirectly) that IDUs are concerned about HIV transmission, as a substantial proportion of them had taken a blood test for HIV. The extent of HIV testing is particularly high among the 'old users' group, (46%) in the present sample. The total rate of requesting an HIV blood test (31.6%) among all inmates in this sample is much higher than that reported by Power *et al.* (1996) for Scotland, while previous Greek studies (Papaevangelou *et al.*, 1991) have also shown that large proportions of IDUs in the wider community request HIV testing, especially when it is accompanied by counselling. Thus among IDUs in Greece, high levels of injecting and sexual risk behaviour are associated with high levels of concern regarding HIV as shown by rates of HIV testing. Unfortunately, among 'old' and 'new' imprisoned IDUs, concern regarding HIV does not appear to be associated with a reduction in HIV risk behaviour.

Nevertheless, the fact is that at present in Greece there is a low prevalence of HIV infection among drug users. Previous interpretation of this paradox suggests that this is not due to «...the safe behaviour and the high level of awareness of the dangers that IDUs are in, but to the fact that HIV virus has not entered the group yet» (Kokkevi *et al.*, 1990, pp. 49). Perhaps the confirmation of a negative result, plus the knowledge of the low HIV prevalence among peers creates a 'false' sense of security towards AIDS among drug users. Particularly in prisons, this sense of security may be

reinforced by the fact that all HIV infected inmates are transferred immediately and kept separately in the main prison hospital. In addition, during the course of collecting data for this study many inmates mentioned greater concern for Hepatitis than HIV. The high rate of both Hepatitis B and C among IDUs is now regarded as a major problem in its own right and has been shown to be prevalent among IDUs in prison samples, even when HIV seropositivity is low (Crofts *et al.*, 1995). Unfortunately, the investigation of Hepatitis B and C among inmates was not included in this study design.

In summary, the present study illustrated for the first time at a national level, the high level of risk behaviour among imprisoned IDUs in Greece. This is attributable to high-risk sexual behaviour prior to imprisonment and high risk injecting behaviour prior to and during imprisonment. IDUs appear to be aware of the potential risk to their health, hence the high level of HIV testing. However, self-perceived risk among these groups does not appear to be accompanied with modification of behaviour in order to reduce risk. The exact reasons as to why this happens are at present speculative. Further exploration of the attitudes and cognitions of incarcerated IDUs in relation to risk behaviour and self-perceived vulnerability to HIV transmission is required. The use of Social Cognition Models may help to explain this paradox and enhance our understanding of why IDUs continue risk practices. In doing so, attempts to identify the determinants of risk behaviour might allow more specific intervention strategies to be devised, especially within the prison context.

At present there is no national policy as regards HIV harm reduction in relation to IDU amongst Greek prisoners. Some penal systems have advocated the introduction of syringe exchange programmes in prison (e.g. Switzerland, Germany), others have not introduced such measures but have accepted the need to make freely available sterilising facilities as part of general health care improvements (Scotland). Before deciding on the most appropriate HIV risk reduction health care penal policy there is a need for accurate and detailed information as regards the true extent of the problem. It

is hoped that the present study provides a starting point for such work in the Greek prison context.

Summary

In this Chapter is presented data from a national cross-sectional comparative study of injecting drug use amongst male inmates in Greek prisons in relation to demographic and penal variables. A representative sample of 1,000 inmates was randomly selected from ten correctional institutions. 861 questionnaires were included in the analysis. 290 inmates (33.6%) reported injecting drugs, of whom 174 (60%) had injected while in prison, and 146 (50.3%) had shared sometime while in prison. Inmate injectors were predominately aged 25 to 34 years; they were incarcerated mostly due to drug offences (54.7%) and offences against property (30.5%); they were characterised by a multiplicity of previous sentences and a long duration of total time in prison. Most of the injectors had been convicted for drug offences in the past. Injectors, compared to non-injectors, were more likely to have had an HIV blood test. Regarding their sexual behaviour during the twelve months prior to imprisonment, injectors were more likely to have multiple female sexual partners - other than their wives or regular partners. Results were discussed, in the European context in particular, in relation to the apparent relatively low level of injecting drug use among the Greek population in general yet similar rates of injecting drug use among inmates as in other European countries.

CHAPTER 5: Phase 1: HIV risk behaviour correlates among injecting drug users in Greek prisons

5.1 Introduction

As mentioned in Chapter 2 (see § 2.1.5, p. 32, for an extended literature review), studies concerning the extent of HIV high-risk behaviours among penal populations suffer from significant limitations. Many of the studies have focused on single institutions and thereby prevent generalisability to the larger prison population. Additionally, much of the published literature has been limited to surveys that have examined the extent of drug use and sharing practices, while failing to examine the correlates and determinants of such practices. Obviously, the same applies in Greek research field. Until recently the pattern of social research on AIDS in Greece had been to study the social perception of AIDS threat in the general population (Agrafiotis et al., 1991; Gnardellis and Agrafiotis, 1991), while marginalised groups such as prisoners have largely been ignored. The few published studies on HIV risk behaviours of IDUs while in prison (i.e. Malliori *et al.*, 1998a) have been mainly descriptive and based on relatively small samples derived either from treatment services or from one or two institutions. Given these limitations in the research field in Greece, the present study attempts to fill this gap by conducting an assessment of the penal population on a national basis. Furthermore, within Greece, this study was a first attempt to examine in depth the injecting and sharing behaviour among prisoners and to identify the correlates of such risk practices.

Following the previous Chapter in which was presented a general pattern of drug

use among inmates, in this Chapter I focus on IDUs inmates and present comparative data between those injectors who had ever injected while in prison and those who had never done so. Additionally data is presented on sharing injecting equipment while in prison among IDUs. Finally, using a more sophisticated analysis, we identify the correlates of injecting behaviours while in prison.

5.2 Methods and subjects / Measures

The methodology of Phase 1 of this study was presented in detail in Chapter 4. Briefly, a representative sample of 1,000 Greek male inmates from ten male adult institutions was asked to participate. 861 questionnaires were completed and used in the analyses (response rate 86.1%). Data were gathered in a form of a self-report anonymous questionnaire for demographic data, penal history, drug use, sharing injecting equipment and HIV risk sexual practices, which inmates completed on a voluntary basis.

5.3 Results

Non-parametric tests (Chi square $\{\chi^2\}$ and Mann-Whitney U) were used where appropriate to compare injectors who had ever injected while imprisoned versus those injectors who had never injected while imprisoned. Then a core model was developed using as explanatory variables the age of inmates (years), the type of inmate (remand, convict), the total time in prison (years) and the conviction for drugs in the past (yes, no). The dependent variable used in the model was injection while in prison (yes, no). That model was fitted to data only from inmates who reported a history of injection drug use

sometime in their lives (N = 290). Reasonably, all the explanatory variables in this model were related to the prison career of inmates and could represent a "crime-prison" component. Additionally, a second model was developed that controlled for core variables and evaluated the association of injection while in prison with "sexual risk behaviour before and during imprisonment". This was done by introducing into the core model four new variables: the number of male and female sexual partners during the year before imprisonment; paid sexual intercourse (yes, no); sexual intercourse with inmates (yes, no). This distinction of explanatory variables would allow us to identify the potential effect of the different types of variables in the dependent variable. All p-values reported in statistical procedures are two-tailed.

As already shown in the previous Chapter (Figure 4.1, pp. 132), from the 861 inmates, 290 (33.7%) reported that they had injected drugs sometime in their lives. 174 inmates (20.2%) reported having injected drugs, sometime during their past or current imprisonment, while 145 (16.8%) reported that they had shared injecting equipment while past or current imprisonment.

Table 5.1 presents the distribution of inmate injectors (ever injected while imprisoned versus never injected while imprisoned) according to all variables included in the logistic regression model.

Table 5.1. Among 290 IDUs, reported prevalence of having 'Ever' or 'Never' injected drugs while imprisoned by age, type of inmate, offence, number of past sentences total time in prison, drug conviction, previous HIV blood test and number of female and male sexual partners.

	Ever injected (%)	Never injected (%)	Chi ²	p
Age			5.57	ns
<24	14 (8.3)	11 (9.9)		
25-34	77 (45.5)	60 (54.1)		
35-44	62 (36.7)	26 (23.4)		
45-54	14 (8.3)	12 (10.8)		
55+	2 (1.2)	2 (1.8)		
Total	169 (100)	111 (100)		
Type of inmate			6.04	0.049
Remand	60 (34.9)	50 (44.2)		
Convict	112 (65.1)	63 (55.8)		
Total	172 (100)	113 (100)		
Offence			5.49	ns
Against life	13 (7.6)	5 (4.5)		
Against property	48 (28.1)	38 (34.2)		
Financial	2 (1.2)	3 (2.7)		
Drug related	98 (57.3)	56 (50.5)		
Sexual	5 (2.9)	3 (2.7)		
Violation of specific laws ^a	4 (2.3)	3 (2.7)		
Other	1 (0.6)	3 (2.7)		
Total	171 (100)	111 (100)		

^a This category includes offences like illegal entrance in the country, circulation of forged money, Jehovah's witness, escape from prison, etc

Table 5.1 (cont.) Among 290 IDUs, reported prevalence of having 'Ever' or 'Never' injected drugs while imprisoned by age, type of inmate, offence, number of past sentences total time in prison, drug conviction, previous HIV blood test and number of female and male sexual partners.

	Ever injected (%)	Never injected (%)	Chi ²	p
Sentences in the past			14.3	0.002
None	32 (18.9)	43 (38.0)		
One	46 (27.0)	29 (25.7)		
2 - 4	54 (31.8)	26 (23.0)		
more than 5	38 (22.3)	15 (13.3)		
Total	170 (100)	113 (100)		
Total time in prison			34.0	10 ⁻³
< 3 months	0 (0.0)	10 (8.9)		
3-6 months	4 (2.3)	8 (7.1)		
7-11 months	14 (8.2)	19 (16.9)		
1-3 years	52 (30.2)	33 (29.5)		
4-7 years	53 (30.8)	30 (26.8)		
8-12 years	36 (20.9)	9 (8.1)		
More than 12 years	13 (7.6)	3 (2.7)		
Total	172 (100)	112 (100)		
Drug conviction			12.9	10 ⁻³
YES	116 (67.4)	52 (46.0)		
NO	56 (32.6)	61 (54.0)		
Total	172 (100)	113 (100)		
Taken the HIV blood test			2.64	ns
YES	89 (51.7)	46 (41.8)		
NO	83 (48.3)	64 (58.2)		
Total	172 (100)	110 (100)		

Table 5.1 (*cont.*) Among 290 IDUs, reported prevalence of having 'Ever' or 'Never' injected drugs while imprisoned by age, type of inmate, offence, number of past sentences total time in prison, drug conviction, previous HIV blood test and number of female and male sexual partners.

	Ever injected (%)	Never injected (%)	Chi ²	p
Female sexual partners, 1 year prior to imprisonment*				
NONE	43 (25.4)	39 (34.5)		
ONE (1)	30 (17.8)	23 (20.3)		
2-5	47 (27.8)	34 (30.1)		
6-10	18 (10.7)	9 (8.0)		
More than 11	31 (18.3)	8 (7.1)		
Total	169 (100)	113 (100)		
			3.9	ns
Male sexual partners, 1 year prior to imprisonment				
NONE	148 (92.5)	105 (93.7)		
ONE (1)	3 (1.9)	4 (3.6)		
2-5	3 (1.9)	0 (0)		
6-10	2 (1.2)	2 (1.8)		
More than 11	4 (2.5)	1 (0.9)		
Total	160 (100)	112 (100)		

* M-W test: $z = -3.58$; $p < 10^{-3}$; Sores in this variable were ranked as follows: "None" = 1; "One" = 2; "2-5" = 3; "6-10" = 4; "More than 5" = 5

As seen in Table 5.1, there were no significant differences between those who injected in prison and those who did not as regards their age and offence categories. Additionally, the two groups of inmates did not differ significantly as regards having previously taken an HIV blood test outside prison and the number of male sexual partners,

other than regular partners, during the one-year period before imprisonment.

On the other hand, the two groups seemed to differ significantly in terms of inmates' status: 112 (65.1%) of those who reported injecting sometime while imprisoned being convicts, in comparison with 63 (55.8%) of those who reported never injected while imprisoned being convicts ($\text{Chi}^2 = 6.04$; $\text{df} = 2$; $p < 0.05$). Additionally, the two groups differed in terms of the number of previous sentences and the duration of total imprisonment. Of those who had injected while imprisoned, 92 (54.1%) had been sentenced for 2 to 5 or more times before their current sentence, compared with 41 (36.3%) of those who never injected while imprisoned. On the other hand, significantly less of those who had injected in prison, (32/170, 18.9%), than those who had not (43/113, 38.0%) had not previously been sentenced ($\text{Chi}^2 = 14.3$; $\text{df} = 3$; $p < 0.005$). Regarding the total time spent in prison, 59.3% of injectors in prison ($n = 102$) had spent from 4 up to more than 12 years; this proportion falls to 37.6% ($n = 42$) for those inmates who had never injected in prison ($\text{Chi}^2 = 34.0$; $\text{df} = 6$; $p < 10^{-3}$). The majority of inmates who had injected sometime while imprisoned (67.4%; $n = 116$) had been convicted for drug related offences in the past, compared with 46.0% ($n = 52$) of the non-injectors in prison who had been convicted ($\text{Chi}^2 = 12.9$; $\text{df} = 1$; $p < 10^{-3}$). Finally, the number of female sexual partners other than their wives or regular sexual partner, was significantly greater in injectors who had injected while imprisoned than those who never injected while imprisoned (M-W test: $z = -3.58$; $p < 10^{-3}$).

Nevertheless, data presented in Table 5.1 were inherently confounded and therefore not directly interpretable. The corresponding associations among the variables of the "crime-prison risk" and the "sexual risk behaviour before and during imprisonment" components, with the 'injection while in prison' variable, after controlling for mutual

confounding, are shown in Tables 5.2 and 5.3.

Table 5.2 Logistic regression-derived odds ratios and 95% confidence intervals for the core model

Variables	Odds ratio	95% CI	P value
Age (years)	0.99	0.95-1.02	0.49
Inmate type			
Convict	1.58	0.92-2.73	0.010
Remand	<i>Baseline</i>		
Total time in prison (years)	1.17	1.07-1.27	0.0003
Conviction for drugs in the past			
Yes	1.97	1.16-3.33	0.011
No	<i>Baseline</i>		

Table 5.2 provides the logistic regression-derived odds ratios for the core model. Results from this model suggested that total time in prison was a highly significant predictor of injection while imprisonment. For every year of being in prison, the risk of injection increases by about 17% (OR = 1.17, [95% CI: 1.07 - 1.27]) after adjusting for the other explanatory variables. Possible conviction for drugs in the past also appeared to have a significant influence on the probability that an IDU injects in prison. Inmates with a previous drug related conviction were about twice as likely to inject within prison compared to others IDU (OR = 1.97, [95% CI: 1.16 - 3.33]). Finally, convicted inmates were marginally significantly more prone to inject in prison compared to remands (OR = 1.58, [95% CI: 0.92 - 2.74]).

Table 5.3: Logistic regression-derived odd ratios and 95% confidence intervals for the model including core variables and sexual risk behaviour variables

Variables	Odds ratio	95% CI	P value
Age (years)	0.99	0.96-1.03	0.66
Inmate type			
Convict	1.68	0.95-2.97	0.07
Remand	<i>Baseline</i>		
Total time in prison (years)	1.15	1.06-1.26	0.0013
Conviction for drugs in the past			
Yes	1.87	1.08-3.22	0.02
No	<i>Baseline</i>		
Number of women having sex	1.08	1.00-1.16	0.06
Number of men having sex	0.91	0.74-1.12	0.39
Paid sexual intercourse			
Yes	0.97	0.54-1.74	0.91
No	<i>Baseline</i>		
Sexual intercourse with inmates			
Yes	2.29	0.43-12.05	0.41
No	<i>Baseline</i>		

Table 5.3 shows the associations of the "sexual risk behaviour before and during imprisonment" variables with injection while in prison, controlling for the variables of the core model. In this model, the associations of core variables with the risk of injection while in prison remained substantially unchanged. From the variables of the "sexual risk behaviour" component, the number of female sexual partners during the one-year period prior to imprisonment was marginally significantly related to increased risk for prison injection (OR = 1.08, [95% CI: 1.00 – 1.16]).

Sharing equipment during imprisonment

The results of the study showed that of those IDUs, who reported injection while in prison, the vast majority (145 out of 174, 83%) reported sharing behaviour inside prison. It had been hoped to further explore the pattern of this sharing behaviour and look for potential associations between it and other variables. Unfortunately the numbers of those reported sharing while in prison and those who did not were highly unequal, thus no further analysis was undertaken.

5.4 Discussion

As shown in the previous Chapter, drug use seems to constitute a salient part of prison life in Greece. In this study, almost sixty percent of drug users in the sample admitted having injected drugs sometime while in prison and the vast majority (more than 80%) of those injectors in prison reported that they had shared equipment during the injecting procedure. The main research objective of the present study was to identify the correlates of HIV risk behaviour within prison among injecting drug users. Logistic regression analysis suggested that variables related with prison career and criminality outside prison – those included in the so-called “crime-prison” component - appeared to have a strong influence on the probability that a drug user injects in prison. As a general pattern of results, the findings of our study are different from those reported by Shewan *et al.* (1994) who investigated the factors mostly related with sharing behaviour within prison and concluded that prison variables were poor predictors of sharing injecting equipment while in prison. This apparent difference may be attributed to the different research questions asked (we looked for correlates of injection in prison, while Shewan *et al.* looked

more specifically for factors related with sharing practices within prison), as well as to different statistical methods applied in order to explore data.

The present study found that convicts were significantly more prone to inject in prison, compared with remands. This finding is in the opposite direction from that of Dye and Issacs (1991), who concluded that drug injecting in prison was more common among short term and remand inmates. However there are considerable methodological differences between the two studies, which might explain the contradictory findings. For example, the Dye and Issacs' study was limited to one adult prison (HMP Edinburgh, which keeps short term convicts and remand prisoners). As such the authors of the Scottish study acknowledge the unrepresentativeness of their sample. On the other hand, the present study was conducted on a national basis using a representative sample of inmates.

It was apparent that for IDUs, the percentage of those who reported injection while in prison increased with cumulative time spent inside prison. Thus, 33% of injectors inside had spent less than 1 year imprisoned; 61% had spent 1-3 years; and 71% had spent more than 3 years inside. This finding is in line with relevant data from Scottish prisons (Bird, *et al.*, 1992). Additionally, logistic regression analysis showed that a convicted inmate is significantly more prone to inject in prison compared with a remand inmate. This is probably explained only in conjunction with the rest of the variables that are also found to be important in predicting injecting behaviour in prison. Total time in prison and conviction for drugs in the past additionally increased the probability that a person already involved with drugs continues injecting behaviour when enters prison. All these variables identify and confirm the stable relation between drug use and prison career. A relationship that has already been shown by previous Greek research among drug users in the

community (Kokkevi *et al.*, 1993). According to the Greek Penal Code, a person is incarcerated if she/he is guilty for the violation of the Law related to Drugs. This Law includes both possession of drugs for personal use and trade of drugs. Until the latest revision (1987), laws were severe even for possession for personal use. Currently, under the revised law, a distinction is made between the non-dependent and the dependent user. The latter is given the opportunity, when arrested for possession for personal use, to follow a therapeutic detoxification programme instead of being incarcerated. Heavy penalties are applied to those involved in drug trade (Kokkevi *et al.*, 1993). Furthermore, previous research in Greece has shown that a higher level of criminality is associated with a greater propensity to high - risk drug practices (needle sharing) in relation to the transmission of HIV infection (Kokkevi *et al.*, 1992). Thus, the pattern is perhaps as follows: A drug user who has previous drug related convictions, is more prone to be in prison again for a drug-related offence. The greater the length of time spent in prison (which is of course a natural consequence of repeated conviction), the higher the probability of continuing injecting in prison. The effect of the "crime-prison" variables seems to be strong enough, as their power in explaining injecting behaviour in prison remain stable when other different kind of variables are tested as explanatory factors. Nevertheless, the effect of a completely different type of variable - the number of female sexual partners, other than one's wife, in the one-year period prior to imprisonment - was also identified. That means that drug users, tend to generalise their risk behaviours in different areas of life, and during the period before their imprisonment are exposed to additional risk through their sexual practices (Power *et al.* 1992b). There are also some other elements that may contribute to enhanced risk of drug taking in prison, but not studied in this survey, i.e. the existence of a methadone programme only in the community. The methadone programme started in

Greece in January 1996. There are two methadone maintenance units in Athens and two in Thessaloniki. IDUs who are eligible for entrance in such programmes must be older than 22 years and have used heroin use on a daily basis. The lack of such programmes in Greek prisons perhaps represents – for some IDUs – a cessation of methadone scripts on entry to prison, a factor already identified by Shewan *et al.* (1994) to be highly associated with sharing in prison.

The vast majority of injectors in prison in the present sample (83%) reported that they shared needles while in prison. Nevertheless, although in this study factors associated with sharing behaviour were not investigated in depth, the high rates of sharing behaviour were further confirmed by anecdotal reports of prisoners during the course of the survey. They reported that in big institutions, where security levels were high more than eighty injectors might use one syringe. It is obvious that these figures and reports are by themselves alarming, not only for potential risk for HIV but also for hepatitis. Indeed, high prevalence rates of hepatitis C (80.6%) and B (62.7%) have been identified by previous research in Greek prisons (Malliori *et al.*, 1998a).

The present study identified for the first time at a national level, the correlates of HIV risk behaviour among imprisoned IDUs in Greece. These correlates are primarily associated with the prison career of an injecting drug user. Nevertheless, interpretation of the results of this study should be treated with caution due to a number of limitations. Firstly, this study focused upon the correlates of injecting behaviour, not sharing behaviour, while in custody. Injecting drugs is not by itself a risk for HIV, unless syringes are shared (Dolan, 1997). However, within the present sample the overwhelming majority of those who injected in prison shared equipment. Secondly, this study failed to access drug use behaviour on a continuum, from the community to prison, thus it was not able to

identify whether the reported drug use practices actually constitute a change to a general drug use pattern adopted by Greek IDUs. Finally, in this study information was not collected from those inmates who refused to participate, thus it is possible that some selection bias may have occurred.

In conclusion, what seems to emerge from the findings of this study is a high level of high risk injecting behaviour among imprisoned IDUs who continue to inject while incarcerated. Such behaviour being associated with frequency and length of imprisonment and other high risk activities such as sexual promiscuity prior to imprisonment. There is therefore a need to assist these individuals in reducing the likelihood of such high-risk behaviours. It would seem that this could be achieved by considering a number of factors, in particular frequency of incarceration, length of time incarcerated and availability of detoxification programmes within prison. Only recently (1987) in Greece has the law regarding the possession of drugs changed and those people who possess small quantities of drugs for personal use do not receive heavy sentences, while at the same time they have the opportunity to enter a detoxification programme while incarcerated. Further measures of an HIV harm reduction policy are required, to identify those factors responsible for high risk drug use practices, both in the community and in prison.

Summary

In this Chapter is presented data regarding the correlates of injecting drug use within prison from a national cross-sectional study among Greek inmates. From an initial sample of 861 inmates, a sub-sample of 290 inmates (33.7%) reported injecting drugs at some time in their lives, of whom 174 (60%) had injected while imprisoned. Among those who had injected while imprisoned, 145 (83%) had shared equipment while incarcerated. Logistic regression analysis suggested that total time in prison, previous drug conviction, being a convict (as opposed to on remand) and having multiple female sexual partners one year before incarceration were significant HIV risk behaviour correlates. For every year of imprisonment, the risk of injection in prison increased by about 17% (OR = 1.17, [95% CI: 1.07-1.27]). Inmates with a previous drug related conviction were about twice as likely to inject within prison (OR = 1.97, [95% CI: 1.16 – 3.33]). Finally, convicted inmates were marginally significantly more prone to inject in prison (OR = 1.58, [95% CI: 0.92 – 2.74]). In conclusion, variables related to the inmates' prison career influence HIV risk behaviours within prison. There seemed to be a need to assist IDUs in reducing the likelihood of high-risk behaviour by considering factors such as frequency of incarceration, length of time incarcerated and availability of detoxification programmes within prison.

CHAPTER 6: Phase 2: Attitudes towards AIDS and perceived risk of HIV infection amongst inmates in Greek prisons

6.1 Introduction

Research has shown that the closer people perceive a person with AIDS and the more they are forced to share space with him/her, the more restrictive attitudes they tend to hold towards that person (Chliaoutakis *et al.*, 1993; Herlitz and Brosson, 1990; Ioannidi and Haeder, 1998). Prisoners as part of the general population are likely to be aware of AIDS and hold specific attitudes towards AIDS related issues. Furthermore, the structure of many penal institutions (Greek's including) results in sharing cell space, toileting and eating facilities between inmates. Compared with the amount of attitudes-related research conducted in the general population (Välimäki *et al.*, 1998; Agrafiotis *et al.*, 1991; Gnardellis and Agrafiotis, 1992; Ioannidi and Haeder, 1998; Chliaoutakis *et al.*, 1993; Koulierakis *et al.*, 1994), studies that have investigated prisoners' attitudes towards HIV/AIDS are limited. A recent study on knowledge, beliefs and attitudes of French inmates towards HIV/AIDS (Delorme *et al.*, 1999), although explanatory, it was conducted in only one institution. The only detailed study on inmates' attitudes towards HIV/AIDS conducted in Scotland (McKee *et al.*, 1994; 1995), used a representative sample, yet it was rather descriptive and a-theoretical. Given this situation, as well as the lack of any detailed study of inmates' attitudes in Greek prisons, it seems important to study Greek inmates' attitudes towards different aspects of the AIDS epidemic (i.e. towards the disease itself, people infected with the virus, e.t.c.). This may (1) identify stigmatising and ostracising trends among inmates, (2) identify specific issues that might facilitate the

management of HIV/AIDS within the penal institutions. Furthermore, although the literature has shown that the attitudes held by people do not always lead to behaviour change, it is still crucial to be aware what inmates believe about specific measures of HIV prevention (i.e. condom use, needle cleaning), as these beliefs may to some extent determine their sexual and drug use practices.

The literature on perceived risk is enormous and covers many different aspects. In the context of HIV/AIDS, perceived risk has been considered a necessary but not sufficient prerequisite for behaviour change (Henson *et al.*, 1998) and this relationship has been greatly tested by empirical research (Kowalewski *et al.*, 1997). The basic idea is that if persons perceive themselves as at considerable risk of contracting a disease, they will be more likely to adopt precautionary actions in order to protect themselves. Nevertheless, studies on the role of perceived risk in the adoption of health protective behaviours has produced mixed and inconclusive results (Gerrard *et al.*, 1996), reflecting methodological and theoretical deficiencies in the body of literature (Kowalewski *et al.*, 1997). In any case it seems that the role that risk perception plays in promoting or maintaining protective behaviour change is still not well-understood (Henson *et al.*, 1998). Additionally, studies have explored variables that predict perceived risk, in the general population (Prohaska *et al.*, 1990) and among IDUs (Henson *et al.*, 1998), while others have studied the mediating role of risk appraisal in the relation between past and future behaviours (Otten and Van der Pligt, 1992). Finally, a small number of studies have addressed the issue of the relationship between the emotional and cognitive elements of HIV risk perception (Prohaska *et al.*, 1990; Power *et al.*, 1994; McKee *et al.*, 1995). Nevertheless, although the above studies have addressed a number of issues in relation to risk perception, all but one has been conducted among non-incarcerated populations. The only study conducted among inmates in Scotland (Power *et al.*, 1994; McKee *et al.*, 1995), was descriptive and

explored only the associations between perceived risk, knowledge and attitudes.

Furthermore, studies on risk perception are scarce in Greece. Perceived risk has been investigated among Greek university students and IDUs at liberty (Koulierakis *et al.*, 1994; Kokkevi *et al.*, 1992), only in relation to knowledge and attitudes. Until now, no detailed study among Greek inmates has ever addressed any of the above mentioned risk-related issues and the present study constitutes an effort to fill this gap.

6.2 Sample selection / Descriptives

Phase 2 of the current study in Greek prisons was conducted from February to May 1997, in the adult male section of the judicial prison of Korydallos, in Athens. This institution was the biggest in Greece and kept mostly short-term convicts and remand inmates. According to the data obtained from all institutions before the onset of the study, in March 1995, there were 1,253 adult male inmates kept in Korydallos prison. This figure represented 24.9% of male inmates in all Greek prisons and 38.6% of male inmates kept in judicial prisons of the country. Furthermore, because of its location, it was an institution where a great majority of inmates spend some time incarcerated, as a large amount of criminal activity, arrests and trials take place in Athens area. Inmates in Korydallos prison were kept in separate sections, according to the crime committed. There was one section for financial offenders, two sections for drug-related offenders and one section for offenders who have committed property crimes. A purposive sampling procedure was used in order to recruit approximately equal number of IDUs and non-IDUs inmates, while the inmates' selection procedure was the same as in Phase 1 of the study. Briefly, as inmates in Korydallos prison were kept in clearly separate sections, according to the crime

committed, a sampling by section took place, selecting inmates randomly within each section. From the 436 invited Greek inmates, 254 completed and returned the body of the questionnaires (response rate 58.2%). As I did not collect information on those inmates who did not want to participate in the study, I am not able to state whether any selection bias occurred. Of the returned questionnaires, 12 were excluded from the analyses, because they contained logical errors or they hadn't been completed in the main thus leaving 242 questionnaires to be analysed.

The basic demographic and penal characteristics of the sample are presented in Table 6.1. As can be seen in Table 6.1, the mean age of prisoners was 37.2 years (SD = 9.9 years). More than one third of inmates (88/242, 36.4%) were married, while slightly less were unmarried (84/242, 34.7%). The majority of inmates (145/242, 59.9%) had finished primary and secondary school. The average length of time currently spent imprisoned was 16.7 months (range: a few days - 12 years). 101 out of the 242 inmates (41.7%) were currently sentenced for drug offences, while an almost equal number of inmates were sentenced for offences against property (50/242, 20.7%) and financial crimes (46/242, 19%). Almost half of the inmates (118/242, 48.8%) were in prison for their first time, while there were 29 inmates (12%) who had been sentenced more than 5 times in the past, except the current sentence. 81 inmates (33.5%) reported a previous conviction for drugs. A significant number of inmates (100/242, 41.3%) were remands, which reflects the remand and convicted status of this institution. Excluding these 100 remands, 111 out of 141 remaining convicts (78.7%) were serving a current sentence of more than 3 years. Half of the inmates (123, 50.8%) reported that they had taken a blood test for HIV, outside prison. Of these tested, 3 (1.2%) reported that they were aware of the positive result. Finally, 103 inmates (42.6%) reported that they had sometime in their lives injected drugs intravenously.

Table 6.1. Basic demographic and penal characteristics of sample of 242 inmates

Age	mean (SD)	37.2 years (9.9 years)	
Current time in prison	mean (SD)	16.7 months (20.6 months)	
Marital status		N	%
	Married	88	(36.4)
	Unmarried	84	(34.7)
	Cohabit	25	(10.3)
	Divorced	23	(9.5)
	Separated	19	(7.9)
	Widower	2	(0.8)
Educational level			
	Illiterate	6	(2.5)
	Primary school	67	(27.7)
	Secondary school	78	(32.2)
	High school	62	(25.6)
	Higher school	9	(3.7)
	University	20	(8.3)
Duration of current sentence			
	Remand	100	(41.3)
	< 3 months	3	(1.2)
	3-6 months	3	(1.2)
	7-11 months	10	(4.1)
	1-3 years	14	(5.8)
	3+ years	111	(45.9)

Table 6.1 (cont.). Basic demographic and penal characteristics of sample of 242 inmates

Offence		
Against life	26	(10.7)
Against property	50	(20.7)
Financial	46	(19.0)
Drug related	101	(41.7)
Sexual	5	(2.1)
Specific laws	3	(1.2)
Sentences in the past		
None	118	(48.8)
One	51	(21.1)
2-4	44	(18.2)
more than 5	29	(12.0)
Drug conviction in the past		
YES	81	(33.5)
NO	158	(65.3)
HIV blood test outside prison		
YES	123	(50.8)
NO	114	(47.1)
Result (of those tested)		
Positive	3	(2.4)
Negative	111	(90.2)
Do not know	6	(4.8)
Not answer	1	(0.8)
Ever injected drugs		
YES	103	(42.6)
NO	139	(57.4)

6.3 Measures (Adaptation in the Greek prison setting / Problems)

In the absence of measures with established psychometric properties for the Greek population of inmates, measures of established reliability and validity with other populations, as well as measures previously used in other prison settings were adapted for use in the current study. All measures were used in the Greek context for the first time.

6.3.1 *The Attitude Scale*

Data regarding inmates' attitudes were gathered by means of a self-completed HIV/AIDS attitudes' questionnaire for prisoners. The questionnaire was based on a similar measure used in a study in Scottish prisons (McKee *et al.*, 1994, 1995) and contained 16 attitude items. Each item was rated on a 5 point Likert scale, from "strongly agree" to "strongly disagree" in such a way that higher scores represented more positive sentiments towards people with HIV/AIDS, or more liberal attitudes concerning AIDS. The internal consistency of the scale was established by computing reliability coefficients. Cronbach's alpha value for the scale was .76 (IDUs: $\alpha = .71$; non-IDUs: $\alpha = .77$).

6.3.2 *The Perceived risk and concern Scale*

Data regarding inmates AIDS concern and perceived risk for HIV infection were gathered by means of a self-completed questionnaire for prisoners. The questionnaire was based on a similar measure used in a study in Scottish prisons (Power *et al.*, 1994; McKee *et al.*, 1995) and contained 4 perceived risk and 3 concern items. More specifically, inmates were asked to estimate their personal risk of HIV/AIDS outside prison, and the risk of an average member of the general public. They were also asked to estimate their personal risk inside prison and the risk of an average inmate. Finally, inmates were asked

to rate their concern about AIDS both inside and outside prison, and their concern about their general health. For the four risk questions, answers were rated in a five-point Likert type scale, from 1 = "Not at all risk" to 5 = "A great deal risk". For the three concern questions, answers were also rated in a five-point scale, from 1 = "not at all concerned" to 5 = "extremely concerned". For both concern and perceived risk questions, higher scores represent higher level of AIDS concern and higher perceived risk. The internal consistency of the scale was established by computing reliability coefficients. Cronbach's alpha value for the entire scale (7 items) was .76 (IDUs: $\alpha = .76$; non-IDUs: $\alpha = .76$). Cronbach's alpha value for the concern scale (3 items) was .63 (IDUs: $\alpha = .73$; non-IDUs: $\alpha = .56$). Cronbach's alpha value for the perceived risk scale (4 items) was .67 (IDUs: $\alpha = .67$; non-IDUs: $\alpha = .67$).

6.3.3 The Health Belief Model Scale

Data on HBM elements were gathered by means of a self-completed questionnaire for prisoners. The questionnaire was constructed for the needs of the present study, following the instructions given by Sheeran and Abraham (1996). Measures of only the four initial components of the HBM (susceptibility, severity, benefits, and costs) were used. The perceived susceptibility consisted of three items, measuring perceived likelihood of getting AIDS ("*The chances of my being infected with AIDS are many*"), ("*My behaviour enhances the chances of being infected with AIDS*") and perceived worry of getting AIDS ("*I worry a lot about the chance of being infected with AIDS*"). The perceived seriousness of AIDS (the "severity" element) was represented by four questions, measuring the likelihood of ruining one's life due to AIDS ("*If I am infected with AIDS, my life will be ruined*"); the seriousness of AIDS compared with any other disease ("*Being infected with AIDS is more serious than being ill due to another disease*"); the terror of thinking AIDS

("The thought of AIDS terrifies me"); and the worthlessness of life if one is infected with AIDS ("If I am infected with AIDS, it won't be worth living"). Perceived benefits from adopting HIV-precautionary behaviours consisted of three items. Two of them measured the reduced likelihood of HIV infection if the person avoided injecting ("Avoiding injecting drugs, is a good way of preventing AIDS") or used sterilised works ("Sterilisation of works before each use consists a necessary protection in order that the chances of being infected with AIDS is reduced") and one, if the person used condoms during sexual contacts ("Condom use during sexual contact is an effective way of avoiding infection with AIDS"). Finally, three items were used to assess perceived costs of HIV-precautionary behaviour. Costs referred to the annoyance of condom use ("It is annoying to use a condom during sexual contact"), the inability of the subject to resist drug use ("I am afraid I couldn't resist an injection, if I had the chance") and the difficulty of an injector to avoid using non-sterilised works ("It is difficult for me to avoid using non-sterilised works, if I inject drugs") All items were rated in a 5 point Likert scale, from 5 = "strongly agree" to 1 = "strongly disagree". Higher scores represented higher perceived susceptibility to AIDS, higher sense of severity of AIDS and stronger beliefs regarding the benefits and the costs of adopting the HIV-protective behaviour. The psychometric properties of the HBM scale, regarding the whole sample and separately for IDUs and non-IDUs are presented in Table 6.2.

Table 6.2 Cronbach's alpha of the HBM scale for IDUs (n = 103) and non-IDUs (n = 139) inmates

	Items	All sample	IDUs	non-IDUs
<i>HBM</i>	13	.64	.67	.56
Susceptibility	3	.62	.72	.52
Severity	4	.66	.65	.66
Benefits	3	-*	.24 ¹	-*
Costs	3	-*	.51	-*

* Alphas are missing because specific items of these components were irrelevant to this sub-group

As can be seen in the Table 6.2, alphas ranged from .51 to .72, justifying the use of the Scales in the analyses. An exception regards the 3-items Benefits Scale for IDUs (alpha = .24). Looking at the scale more carefully, one can realise that none of the items was strongly correlated with any other. Because each item appeared to be measuring something different, the decision was made to use all of them individually, in separate analyses, as indicators of the perceived benefits among IDUs. Additionally, when a specific analysis applied to the whole sample, only the individual items related to benefits and costs from using condoms during sexual contacts were used.

6.3.4 The Health Locus of Control Scale and the Health Value Scale

The Form A of the 18-item Multidimensional Health locus of Control (MHLC) scale developed by Wallston *et al.* (1978) was used, after being translated into Greek. In this scale, each of the three locus of control dimensions (internal, powerful others, chance) comprised six items measuring the strength of differing control beliefs, using a six-point Likert scale, ranging from 1 = "Strongly disagree" to 6 = "Strongly agree". Wallston *et al.* (1978) reported high alpha reliabilities (range from .67 to .76). Inmates indicated the extent

¹ The reliability coefficient for this scale is clearly unacceptable. But without other evidence about this construct, we decided to use the scale instead of either of the individual items.

to which they agreed with a series of statements referring to the three locus of control dimensions. Higher scores represented stronger beliefs on the role of each of the locus of control dimensions. The MHLC scale is presented in Table 6.3

Table 6.3 The Multidimensional Health Locus of Control (MHLC) scale (Wallston *et al.*, 1978)

Internal Health Locus of Control (IHLC)

1. If I get sick, it is my own behaviour, which determines how soon I get well again.
6. I am in control of my health.
8. When I get sick I am to blame.
12. The main thing that affects my health is what I myself do.
13. If I take care of myself, I can avoid illness.
17. If I take the right actions, I can stay healthy.

Powerful Others Health Locus of Control (PHLC)

3. Having regular contact with my physician is the best way for me to avoid illness.
5. Whenever I don't feel well, I should consult a medically trained professional.
7. My family has a lot to do with my becoming sick or staying healthy.
10. Health professionals control my health.
14. When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
18. Regarding my health, I can only do what my doctor tells me to do.

Chance Health Locus of Control (CHLC)

2. No matter what I do, if I am going to get sick, I will get sick.
4. Most things that affect my health happen to me by accident.
9. Luck plays a big part in determining how soon I will recover from an illness.
11. My good health is largely a matter of good fortune.
15. No matter what I do, I'm likely to get sick.
16. If it's meant to be, I will stay healthy.

The numbering of the items is what Wallston *et al.* (1978) had proposed

Additionally the four-item Health Value Scale developed by Lau *et al.* (1986) was used. Inmates were asked to indicate in a seven point Likert scale ranging from 1 = "Strongly agree" to 7 = "Strongly disagree", the value they placed on health. Due to the negative wording of two items, the first and the fourth items were reverse coded according to the instructions (Norman and Bennett, 1996), so that higher scores indicating higher value attached to health. The sum of the four scores provided an overall measure of health value, with scores ranging from 4 to 28. The four items of the Health Value scale are shown in Table 6.4.

Table 6.4 The Health Value scale (Lau *et al.*, 1986)

-
- 1) There is nothing more important than good health.
 - 2) Good health is of only minor importance in a happy life.
 - 3) If you don't have your health, you don't have anything.
 - 4) There are many things I care about more than my health.
-

In Table 6.5, below, I show the estimates of internal consistency (coefficient alphas) for the MHLC and HV scales en bloc, as well as for the three sub-scales of the HLC construct, separately for IDUs and non-IDUs inmates. At the right column of the Table, we present the alphas pertained by Wallston *et al.* (1978) and Lau *et al.* (1986) at their initial scaling studies.

Table 6.5 Reliability estimates for the MHLC and HV scales for IDUs (n=103) and non-

IDUs (n=139) inmates

Scale	Items	Total sample	IDUs	Non-IDUs	Original Scales
			Alphas		
Health Locus of Control	18	.72	.76	.69	---
<i>Internal HLC</i>	6	.67	.75	.57	.76
<i>Powerful others HLC</i>	6	.61	.63	.61	.67
<i>Chance HLC</i>	6	.73	.74	.72	.75
Health Value	4	.46	.34	.53	.63 - .72

As can be seen, the MHLC scale and its sub-scales had high levels of internal consistency. More specifically, alpha coefficients for all HLC sub-scales (Internal, Powerful others and Chance) are approaching those reported by *Wallston et al.* (1978). Regarding the Health Value scale, our alphas are considerably lower to those reported by *Lau et al.* (1986).

6.3.5 Demographic variables

Specific demographic variables were also used. For the purposes of the analyses presented in this section, some of these variables were re-coded. More specifically, the following variables were used: Age (in years). Family status {Initially: ["married" and "cohabit"] = 1 ("In a stable relationship"); ["unmarried", "divorced", "separated", "widower"] = 0 ("Not in an stable relationship")}. Educational level {Initially ["illiterate", "primary"] = 1 ("Up to primary education"); ["secondary", "high school"] = 2 ("Secondary education"); ["higher", "university"] = 3 ("Higher education")}. Being an IDU (1 = "yes", 0 = "no"). All measures described in this section are presented in APPENDIX 3.

6.4 Procedure

A letter explaining the purpose, the rationale and the methodology of the study was sent to the governor of Korydallos prison, asking for his permission to enter and distribute questionnaires among the inmates. Permission was granted, a specific place was offered to the researcher and the selected inmates were invited to attend there. Inmates were seen in privacy. Prior to their participation all inmates were informed about the purpose of the study, the type of information that they would be asked to provide and the overall procedure of the study. Assurances of anonymity and confidentiality were given and the voluntary character of participation in the study was particularly stressed. Those inmates who did not want to take part were free to do so. The researcher then gave inmates the body of the questionnaires together with an open envelope. As the questionnaires required time to be completed, inmates were asked to take them to their cells, to fill them in, and return the sealed envelope with the questionnaires to the researcher on his next visit to the prison (in two days).

6.5 Analyses

The statistical analysis in this phase of the study was undertaken by univariate (t tests) analysis and modelling the data through regression models (Hosmer and Lemeshow, 1989) using SPSS statistical package (version 8.0, SPSS Inc., Chicago). Due to the multiple comparisons made, the Bonferonni correction was applied, by multiplying the level of significance in each comparison with the total number of comparisons.

6.6 Results

6.6.1 IDUs prisoners' and non-IDUs prisoners' response to attitude items

The pattern of responses of the IDUs and non-IDUs prisoners to the 16 attitude items is presented in Table 6.6. The percentage of inmates' scoring in each answer category for each item is shown, as are the mean scores for each attitude item. The mean scores were ranked from the most positive to the most negative score, and this rank ordering is also presented in Table 6.6.

A substantial majority of IDUs expressed liberal responses to issues related to HIV/AIDS for 13 out of the 16 attitude items. The most liberal attitudes of IDUs were expressed on items related to the provision of free needles, syringes and condoms to IDUs, the willingness to be treated by a doctor who regularly treats HIV infected persons, the treatment of people with HIV/AIDS who were infected through IDU, and the provision of free condoms to homosexuals (items 8, 12, 5, 7, and 11). On the other hand, items related to introduction of compulsory blood tests, for both Greeks and foreigners (items 3 and 14) produced a clear majority of responses among IDUs in favour of conservative approaches to HIV/AIDS control. Additionally, a significant majority of IDUs (almost 73%) expressed the view in favour of an inmate's right to refuse to share a cell with an HIV/AIDS infected inmate (item 13).

The responses of non-IDUs inmates were slightly different from that of IDUs inmates. Although the majority of non-IDUs expressed liberal views to 10 out of the 16 attitude items, in many cases this majority was just above the 50% (items 1, 2, 10, 16). As did IDUs, non-IDU prisoners expressed their most liberal attitudes on the items related to the provision of free needles, syringes and condoms to IDUs (items 8, and 11), and the

sharing of personal and social space with HIV infected persons (items 4 and 5). Additionally, there were three items (items 6, 15 and 16) related to sharing of public places (restaurant, school) and the work place with an HIV infected person in which high percentages of non-IDUs inmates (more than 30%) expressed their uncertainty. On the other hand, similarly to IDUs, non-IDUs responded in a repressive manner in items related to introduction of compulsory blood tests, for both the locals and the foreigners (items 3 and 14) and the right of an inmate to refuse to share a cell with an HIV/AIDS infected inmate (item 13), although in the latter item, the percentage of non-IDU inmates who agreed with the statement (85.5%) was greater than that of IDUs (73%).

Table 6.6 IDU (N = 103) and non-IDU (N = 139) inmates' responses to 16 attitude items

Question	<u>Inmates responses (%)</u>					<u>Mean values</u>		t	p
	IDUs					IDUs (rank)	Non-IDUs (rank)		
	SA	A	U	D	SD				
1. All people who are HIV/AIDS infected should be segregated, until a way of protecting people without the virus is found.	12.7	10.8	10.8	22.5	43.1	3.73 (11)	2.3	ns	
	19.4	12.2	18.0	22.3	28.1	3.27 (13)			
2. If a friend of mine were HIV/AIDS infected, I would have no fear of continuing day-to-day contact with him/her as usual.	41.6	32.7	14.9	5.9	5.0	4.00 (10)	2.7	ns	
	33.8	18.7	27.3	8.6	11.5	3.55 (10)			
3. Compulsory blood tests introduced for all is a way of controlling the spread of HIV/AIDS.	79.6	10.7	6.8	1.9	1.0	1.34 (16)	-0.93	ns	
	71.2	20.1	5.0	0.7	2.9	1.44 (15)			
4. I would be quite happy if an HIV/AIDS treatment center was established in my neighborhood.	57.3	15.5	13.6	8.7	4.9	4.12 (7)	-1.0	ns	
	55.1	25.4	13.8	2.9	2.9	4.27 (2)			

Key: SA=Strongly Agree; A=Agree; U=Unsure; D=Disagree; SD=Strongly Disagree

Table 6.6 (cont.) IDU (N = 103) and non-IDU (N = 139) inmates' responses to the 16 attitude items

Question	<u>Inmates responses (%)</u>					<u>Mean values</u>		t	p
	IDUs Non-IDUs					IDUs (rank)	non-IDUs (rank)		
	SA	A	U	D	SD				
5. I would have no objections to being treated by a doctor who regularly treated patients who were HIV/AIDS infected.	62.7	19.6	13.7	1.0	2.9	4.38 (3)		1.3	ns
	51.4	26.1	15.9	4.3	2.2	4.20 (3)			
6. People who are HIV/AIDS infected should be discouraged from eating in restaurants and from using public toilets.	8.8	6.9	23.5	28.4	32.4	3.69 (12)		2.0	ns
	16.7	5.1	31.9	21.0	25.4	3.33 (12)			
7. People who have contracted HIV/AIDS through intravenous drug use do not deserve medical care.	13.6	1.0	-	5.8	79.6	4.37 (4)		1.0	ns
	10.1	4.3	6.5	15.9	63.0	4.17 (4)			
8. IDUs should be provided with free needles and syringes	93.2	1.9	1.9	-	2.9	4.83 (1)		4.2	.000
	62.5	18.4	9.6	3.7	5.9	4.28 (1)			
9. People who have contracted HIV/AIDS through homosexual activity do not deserve medical care.	11.7	3.9	1.9	10.7	71.8	4.27 (6)		1.3	ns
	12.4	5.8	5.8	19.0	56.9	4.02 (6)			
10. The only way to control HIV/AIDS is to make all homosexual activity illegal.	6.8	3.9	14.6	30.1	44.7	4.02 (9)		2.4	ns
	11.7	7.3	24.1	21.9	35.0	3.61 (9)			
11. IDUs should be provided with free condoms	60.2	25.2	6.8	6.8	1.0	4.37 (5)		1.8	ns
	50.7	25.0	13.2	7.4	3.7	4.12 (5)			
12. Homosexuals should be provided with free condoms.	63.1	25.2	4.9	2.9	3.9	4.41 (2)		3.5	.016
	47.4	21.5	10.4	8.1	12.6	3.83 (7)			

Key: SA=Strongly Agree; A=Agree; U=Unsure; D=Disagree; SD=Strongly Disagree

Table 6.6 (cont.) IDU (N = 103) and non-IDU (N = 139) inmates' responses to the 16 attitude items

Question	<u>Inmates responses (%)</u>					<u>Mean values</u>		t	p
						IDUs (rank)	non-IDUs (rank)		
						IDUs			
	SA	A	U	D	SD				
13. Inmates should have the right to refuse to be in the same cell with an HIV/AIDS infected inmate.	58.3	14.6	11.7	9.7	5.8	1.90 (14)		1.9	ns
	68.1	17.4	5.8	3.6	5.1	1.60 (14)			
14. Anyone from one of the countries where HIV/AIDS is more common should have to take a compulsory blood test for HIV before they enter Greece.	71.3	14.9	5.0	5.0	4.0	1.55 (15)		.90	ns
	74.8	16.3	2.2	3.7	3.0	1.44 (16)			
15. Children known to be infected with HIV/AIDS should be allowed to attend school with uninfected children.	32.7	17.8	30.7	9.9	8.9	3.55 (13)		.76	ns
	29.6	17.8	30.4	9.6	12.6	3.42 (11)			
16. If I found out that one of my work-mates was HIV/AIDS infected, I would have no objection to using shared facilities at work.	39.0	36.0	16.0	6.0	3.0	4.02 (8)		2.5	ns
	33.3	20.7	30.4	5.9	9.6	3.62 (8)			

Key: SA=Strongly Agree; A=Agree; U=Unsure; D=Disagree; SD=Strongly Disagree

The middle column of Table 6.6 shows mean scores higher for the IDUs inmates than for non-IDUs, on the vast majority of attitudes items. Multiple independent t tests were performed in order to compare the two groups on their attitudes. After the Bonferonni correction applied (the significance level of each test was multiplied by 16, which was the total number of test performed), results showed that the two groups differed significantly in 2 out of the 16 items (8 and 12) with IDUs being significantly more liberal than non-IDUs in all of these items (item 8: $mean_{IDU} = 4.83$; $mean_{non-IDU} = 4.28$; $t(237) = 4.2$; $p = .000$; item

12: $\text{mean}_{\text{IDU}} = 4.41$; $\text{mean}_{\text{non-IDU}} = 3.83$; $t(236) = 3.5$; $p = .016$).

I also calculated a total attitude score for IDUs and non-IDUs, by adding the scores of each inmate in every attitude item and then dividing it by the number of attitude items. Comparison of the mean total attitude scores for the two groups of inmates showed that IDUs were in total more liberal than non-IDUs (Total $\text{mean}_{\text{non-IDU}} = 3.33$; Total $\text{mean}_{\text{IDU}} = 3.63$; $t(240) = 3.8$; $p = .000$).

6.6.2 Factors associated with inmates' attitudes

In order to understand the relationships among the attitude items, a principal components analysis of the 16 attitudes items was conducted in the whole sample of inmates ($n = 242$). The factor analysis programme available in SPSS was used, employing the principal Component method of extraction using varimax orthogonal rotation after Kaiser normalisation. The choice of loading cut-off for inclusion of an item in the interpretation of a factor was 0.50, set to reduce the number of complex variables. Table 6.7 presents the five factors solution with the attitude items loadings in each factor and communalities. Variables are ordered and grouped by size of loadings in order to facilitate interpretation.

Table 6.7 Factor loadings, communalities (h^2) for principal components extraction and varimax rotation for inmates (N = 242) on 16 attitude items.

Question	Factors					h^2
	1	2	3	4	5	
1. Isolation	0.82					0.70
15. Attend school	0.81					0.67
16. Share work facilities	0.70					0.61
6. Eating in restaurants	0.67					0.65
2. Contact with a friend	0.51					0.37
9. Medical care for homosexuals		0.89				0.83
7. Medical care for IDUs		0.85				0.77
11. Free condoms for IDUs			0.91			0.84
12. Free condoms for homosexuals			0.87			0.76
8. Free needles/syringes for IDUs			0.52			0.37
4. Neighborhood treatment center				0.75		0.65
5. Treated by doctor				0.83		0.73
3. Compulsory blood tests for all					0.76	0.65
14. Compulsory blood test for entering Greece.					0.68	0.54

Attitude items 10 (All homosexual activities illegal) and 13 (Inmates refuse to share cell) did not load sufficiently highly to any factor to be represented in the above Table.

As can be seen in Table 6.7, Factor One (26.3% of variance) was characterised by items addressing the issue of sharing social space with a person with HIV/AIDS (i.e. isolating all people with AIDS, eating in a restaurant, sharing work facilities, attending school, having a friend with AIDS). This factor was therefore named "*Objection towards social isolation of people with HIV/AIDS*". High scores on items loading on this Factor indicate high tolerance for interacting with people with HIV/AIDS. Factor two (11.9% of variance) consisted of items addressing the issue of providing free medical care to homosexuals and IDUs, thus this factor was named "*Medical care provision*". High scores

on items loading on this Factor indicate greater support for free medical care to homosexuals and IDUs. Factor three (8.9% of variance) was characterised by 3 items reflecting the issue of providing free condoms to IDUs and homosexuals and free needles/syringes to IDUs. Thus, this factor was named "*Measures of prevention for high-risk groups*". High scores on items loading on this Factor indicate greater support for preventing HIV/AIDS through free provision of condoms and needles. Factor four (8.3% of variance) consisted of 2 items addressing the issue of being close to the treatment environment for people with HIV. This factor was therefore named "*Being close to HIV treatment places*". High scores on items loading on this Factor indicate greater acceptance of being close to HIV treatment places. Finally, factor five (6.3% of variance) contained two items addressing the issue of compulsory testing for all and those entering Greece in order to control HIV. This factor was named "*Restrictive practices*". High scores on items loading on this Factor indicate greater support for the adoption of restrictive practices.

6.6.3 Associations between attitudes factors and demographic variables

The associations of each of the five attitude factors with selected demographic, penal and theory-based variables are presented in Table 6.8. Due to the multiple comparisons made, the Bonferonni correction was applied, by multiplying the level of significance in each comparison with the total number of comparisons ($5 \times 16 = 80$).

Table 6.8: Associations between inmates' demographic characteristics, prison and psychosocial variables and attitude factors (N = 242)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Age	ns	ns	ns	ns	ns
Total time in prison	ns	ns	ns	ns	ns
Family status	ns	ns	ns	ns	ns
Educational level	ns	ns	ns	ns	ns
HBM					
Susceptibility	ns	ns	ns	ns	ns
Severity	r = -.35*	ns	ns	ns	ns
Benefit (sexual)	ns	ns	ns	ns	ns
Benefit (drug use) ^a	ns	ns	ns	ns	ns
Benefit (drug use) ^a	ns	ns	ns	ns	ns
Cost (sexual)	ns	ns	ns	ns	ns
Cost (drug use) ^a	ns	ns	ns	ns	ns
Cost (drug use) ^a	ns	ns	ns	ns	ns
Health Value	ns	ns	ns	ns	ns
MHLC					
IHLC	ns	ns	ns	ns	ns
POHLC	ns	ns	ns	ns	ns
CHHLC	r = -.23*	ns	ns	ns	ns

a = only for IDUs (N=103); * p < .0001;

As can be seen in Table 6.8, after the Bonferroni correction was applied, Factor One, only, was associated with two of the independent variables. More specifically, a stronger objection towards social isolation of people with AIDS was found among inmates with lower sense of AIDS severity ($r = -.35$) and with weaker belief that chance is the locus of one's health control ($r = -.23$).

6.6.4 IDUs prisoners' and non-IDUs prisoners' responses to perceived risk and concern items

The patterns of responses of the IDUs and non-IDUs prisoners to the seven concern and perceived risk items are presented in Table 6.9, by showing the percentage of inmates' scoring in each answer category for each item. Due to the multiple comparisons made, the Bonferonni correction was applied, by multiplying the level of significance in each comparison with the total number of comparisons.

Item	Group	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am afraid of my health	IDUs	25.7	28.2	12.5	14.9	11.7
	non-IDUs	15.1	28.3	17.5	16.9	18.4
I am afraid of my work	IDUs	11.2	18.5	14.5	12.4	16.8
	non-IDUs	18.1	21.1	12.9	18.7	19.4
I am afraid of my family	IDUs	11.2	11.7	12.5	20.4	15.1
	non-IDUs	18.1	18.9	17.5	18.7	16.7
I am afraid of my future	IDUs	18.1	14.1	13.4	12.4	17.4
	non-IDUs	14.1	24	15.1	18.7	19.8
I am afraid of my health	IDUs	18.1	11.7	12.5	20.4	15.1
	non-IDUs	18.1	18.9	17.5	18.7	16.7
I am afraid of my work	IDUs	11.2	18.5	14.5	12.4	16.8
	non-IDUs	18.1	21.1	12.9	18.7	19.4
I am afraid of my family	IDUs	11.2	11.7	12.5	20.4	15.1
	non-IDUs	18.1	18.9	17.5	18.7	16.7
I am afraid of my future	IDUs	18.1	14.1	13.4	12.4	17.4
	non-IDUs	14.1	24	15.1	18.7	19.8

Table 6.9 IDUs (N = 103) and non-IDUs (N = 139) responses to perceived risk and concern questions

		Response (%)					x ²	p
		Not at all	A little	Medium	A lot	A great deal		
<i>Perceived risk questions</i>								
Considering an average member of the general public, how do you rate their risk of becoming infected with AIDS?	IDUs	3.9	19.4	29.1	25.2	22.3	3.2	ns
	non-IDUs	7.2	16.5	22.3	25.9	28.1		
Thinking of your lifestyle BEFORE IMPRISONMENT how much at risk were you of becoming infected with AIDS?	IDUs	33.0	28.2	12.6	14.6	11.7	1.5	ns
	non-IDUs	39.1	28.3	12.3	10.9	9.4		
How much risk does the average inmate have of becoming infected with AIDS while in prison?	IDUs	11.7	15.5	14.6	19.4	38.8	4.3	ns
	non-IDUs	18.1	21.7	13.0	16.7	30.4		
Thinking of your lifestyle IN PRISON, how much risk do you feel you have of becoming infected with AIDS?	IDUs	22.3	11.7	15.5	20.4	30.1	10.2	ns
	non-IDUs	35.3	19.4	11.5	13.7	20.1		
<i>Concern questions</i>								
How concerned are you about your general health?	IDUs	5.8	4.9	21.4	20.4	47.6	4.1	ns
	non-IDUs	5.8	2.9	15.1	30.2	46.0		
Thinking of your lifestyle BEFORE IMPRISONMENT, how concerned were you about AIDS as a problem to your health?	IDUs	14.6	18.4	20.4	25.2	21.4	3.2	ns
	non-IDUs	20.1	12.9	18.0	22.3	26.6		
Thinking of your lifestyle IN PRISON, how concerned are you about AIDS as a problem to your health?	IDUs	11.7	12.6	8.7	22.3	44.7	10.2	ns
	non-IDUs	27.3	11.5	10.1	14.4	36.7		

As can be seen in Table 6.9, IDUs and non-IDUs do not differ significantly ($p < .05$) from each other on Bonferroni tests, regarding their responses in any of the items related with their own self-perceived risk and AIDS concern within prison.

6.6.5 Differences between IDUs and non-IDUs and differences within each inmate category on concern and perceived risk items

In order to further explore the differences *between* IDUs and non-IDUs, I run t-tests on the inmates mean scores on each item. Due to the multiple comparisons made, the Bonferonni correction was applied, by multiplying the level of significance in each comparison with the total number of comparisons (7). The results of these analyses are presented in Table 6.10.

Table 6.10 IDUs (N = 103) and non-IDUs (N = 139) perceived risk and concern towards HIV/AIDS in self and others, inside and outside prison

	IDUs Mean (SD)	Non-IDUs Mean (SD)	t	p
Risk				
Outside (self)	2.44 (1.38)	2.23 (1.33)	1.1	ns
Outside (other)	3.43 (1.15)	3.51 (1.26)	-.05	ns
Inside (self)	3.24 (1.54)	2.64 (1.56)	2.9	.021
Inside (other)	3.58 (1.43)	3.20 (1.52)	2.0	ns
Concern				
General health	3.99 (1.19)	4.08 (1.12)	-.58	ns
Outside	3.20 (1.36)	3.22 (1.48)	-.10	ns
Inside	3.76 (1.43)	3.22 (1.67)	2.6	ns

Mean scores presented are the responses on five-point scales measuring perceived risk and perceived concern. Response range for Risk: 1 = "Not at all Risk" to 5 = "A great deal Risk". Response range for Concern: 1 = "Not at all concerned" to 5 = "Extremely concerned".

As can be seen in Table 6.10, *outside* prison, IDUs, compared with non-IDUs, perceived their own risk of HIV/AIDS as similar, but perceived a member's of the general public risk of HIV/AIDS as slightly lower (these differences were not significant). On the other hand, *inside* prison, IDUs, compared with non-IDUs, perceived their own risk of HIV/AIDS as significantly higher ($t(240) = 2.9, p < .05$), as did the risk of an average inmate ($t(239) = 2.0, n.s.$). Regarding their level of concern *outside* prison, both IDUs and non-IDUs were similarly concerned about their general health and AIDS, both inside and outside prison.

Also explored were the differences *within* IDUs and non-IDUs across concern and perceived risk questions. Thus, t-tests were performed on their mean scores on selected concern and perceived risk questions (they are not presented in the Table). IDUs were more concerned about their general health than AIDS *outside* prison ($t(102) = -6.0, p < .001$) and more concerned about AIDS *inside* than *outside* prison ($t(102) = -3.9, p < .001$). Their concern about AIDS was greater than their self-perceived risk both *outside* prison ($t(102) = 4.3, p < .001$) and *inside* prison ($t(102) = 3.4, p < .005$). IDUs' self-perceived risk of AIDS *inside* prison was higher than self-perceived risk *outside* prison ($t(103) = 5.0, p < .001$). Finally, IDUs perceived themselves to be at lower risk of AIDS than the average number of the general public ($t(102) = 6.4, p < .001$).

Non-IDUs, were more concerned about their general health than AIDS both *outside* prison ($t(138) = -6.5, p < .001$) and *inside* prison ($t(138) = -5.8, p < .001$), while they were equally concerned about AIDS *inside* and *outside* prison. Their concern about AIDS was greater than their self-perceived risk both *outside* prison ($t(137) = 7.4, p < .001$) and *inside* prison ($t(138) = 4.8, p < .001$). Non-IDUs' self-perceived risk of AIDS *inside* prison was higher than self-perceived risk *outside* prison ($t(137) = 2.7, p < .01$). Additionally, they perceived an average member of the general public to be at higher risk of AIDS than an

average inmate ($t(137) = -2.1, p < .05$) Finally, non-IDUs perceived themselves to be at lower risk of AIDS than the average number of the general public ($t(137) = 9.2, p < .001$) and the average prisoner ($t(137) = 5.5, p < .001$).

6.6.6 Associations between concern and perceived risk towards HIV/AIDS and attitude factors, demographic, penal and psychosocial variables

Several demographic, penal and theory based variables were chosen and examined in their relationship with AIDS concern and perceived risk of HIV infection. Due to the multiple comparisons made, the Bonferonni correction was applied, by multiplying the level of significance in each comparison with the total number of comparisons ($5 \times 21 = 105$). The results of these analyses are presented in Table 6.11. As can be seen in Table 6.11, after the Bonferroni correction was applied, concern and perceived HIV risk variables were significantly associated only with specific HBM components. More specifically, greater AIDS concern before incarceration was associated with more personal susceptibility to AIDS ($r = .32$). Greater concern for AIDS while in prison was associated with more personal susceptibility to AIDS ($r = .51$) and greater sense of AIDS severity ($r = .31$). Perception of self-risk of AIDS *outside* prison was significantly higher among inmates feeling highly susceptible to AIDS ($r = .35$). Finally, perception of self-risk of AIDS *inside* prison was associated with more personal susceptibility to AIDS ($r = .68$) and greater sense of AIDS severity ($r = .32$).

Table 6.11: Associations between inmates' HIV/AIDS risk and concern and attitude factor scores, demographic characteristics, penal and psychosocial variables (N = 242)

	General health concern	Concern AIDS outside	Concern AIDS inside	Own risk outside	Own risk inside
Age	ns	ns	ns	ns	ns
Total time in prison	ns	ns	ns	ns	ns
Family status	ns	ns	ns	ns	ns
Educational level	ns	ns	ns	ns	ns
1. Objection towards social isolation of people with HIV/AIDS	ns	ns	ns	ns	ns
2. Medical care provision	ns	ns	ns	ns	ns
3. Measures of prevention	ns	ns	ns	ns	ns
4. Being close to HIV treatment places	ns	ns	ns	ns	ns
5. Restrictive practices	ns	ns	ns	ns	ns
HBM					
Susceptibility	ns	r = .32*	r = .51*	r = .35*	r = .68*
Severity	ns	ns	r = .31*	ns	r = .32*
Benefit (sexual)	ns	ns	ns	ns	ns
Benefit (drug use) ^a	ns	ns	ns	ns	ns
Benefit (drug use) ^a	ns	ns	ns	ns	ns
Cost (sexual)	ns	ns	ns	ns	ns
Cost (drug use) ^a	ns	ns	ns	ns	ns
Health Value	ns	ns	ns	ns	ns
MHLC					
IHLC	ns	ns	ns	ns	ns
POHLC	ns	ns	ns	ns	ns
CHHLC	ns	ns	ns	ns	ns

a = only for IDUs (N=103); * p < .0001

6.6.7 Factors predicting HIV self-risk inside prison

In order to assess the independent predictors of inmates' reported HIV perceived risk *inside* prison, a linear regression model was run. In this model, the standardised beta weights derived from the regression equation described the relations between the selected demographic, penal and psychosocial variables, while controlling for mutual confounding. The model was applied to those inmates who valued their health high (above the median: 22), as the relevant theory requires (Lau *et al.* 1986; Wallston, 1992). The analysis involved only one step, in which all potential predictors entered into the model simultaneously. The results of this analysis are presented in Table 6.12.

Predictor	Standardised Beta Weight
Age	-.014
Objective towards sexual activities of people with HIV/AIDS	-.116
Medical care provided	.029
Measures of prevention	-.012
Being close to HIV treatment services	.037
Restrictive practices	-.027
General Health concern	.008
AIDS concern before incarceration	-.027
AIDS concern inside prison	-.017
HIV perceived risk outside prison	.076
Susceptibility	-.077
Severity	-.187
Report (annual)	-.286
Cost (weekly)	.081
HLC	.082
POHLC	-.137
CHSC	-.201
Bengali GU	-.011
YES	-.011
NO (reference)	

Table 6.12: Regression of inmates' HIV perceived risk inside prison on demographic, penal and psychosocial variables

	R ² (adjusted)	Beta
	.673	
Age		.099
Total time in prison		-,122*
Family status		
In a stable relationship		,041
In an unstable relationship (<i>baseline</i>)		
Educational level		
Secondary education		-.083
Higher education		-.114
Objection towards social isolation of people with HIV/AIDS		-.119
Medical care provision		-,059
Measures of prevention		-,048
Being close to HIV treatment places		.053
Restrictive practices		.143*
General Health concern		.006
AIDS concern before incarceration		-.037
AIDS concern inside prison		.414**
HIV perceived risk outside prison		.078
Susceptibility		.557***
Severity		-,153*
Benefit (sexual)		-.058
Cost (sexual)		.061
IHLC		-.052
POHLC		.133*
CHHLC		-.091
Being an IDU		
YES		-,031
NO (<i>baseline</i>)		

* p < .05; ** p < .001; *** p < .0001

As can be seen, together the factors accounted for 67% of the variance of HIV perceived risk $F(23, 91) = 11.20, p < .0001$). The most significant predictors were perceived AIDS susceptibility and inmates concern inside prison. More specifically, those inmates with less time in prison, those being more in favour of adopting restrictive practices, those more believing that powerful others control own health, and those being concerned of AIDS inside prison were significantly more prone to perceive themselves at a higher HIV risk inside prison.

When measures of sexual behaviour prior to incarceration (vaginal and anal intercourse, number of female and male sexual partners – other than their stable partner – one year prior to imprisonment, sex with a prostitute, failure to adopt sexual precautionary measures) were entered into the model, the effect of the previously significant predictors disappeared, while the new measures were not at all associated with HIV perceived self risk.

6.7 Discussion

Results of the current study revealed for the first time in some detail that a sample of Greek inmates from the largest penal institution of the country held – in general - liberal and favourable attitudes towards a number of HIV/AIDS related issues. At the same time, inmates expressed uncertainty and conservative attitudes on a number of issues, like the compulsory blood testing. Since the current research derived from an earlier Scottish study, which assessed inmates' attitudes (McKee *et al.*, 1994), it would be of interest to directly compare Greek inmates' attitudes with the attitudes held by Scottish inmates and - where feasible – with the attitudes held by the Greek general population, as they were

tapped at the beginning of 1990s (Agrafiotis *et al.* 1991; 1997) and ten years later² (Ioannidi *et al.*, 2001; Ioannidi and Agrafiotis, 2000, personal communication). For example, 28.1% of Greek inmates agreed that all people with AIDS should be isolated, until a way of protecting people without the virus is found. This compares with 34.5% of Scottish inmates and 13.4% of the Greek general population sample (Ioannidi *et al.*, 2001). 78.9% of Greek prisoners had no objection to being treated by a doctor who regularly treated AIDS patients. This compares with 83.5% of the sample of Scottish inmates but is contrasted with 26.7% of the Athenians' sample (Agrafiotis *et al.* 1991; 1997). In terms of attitude toward work colleagues, 12.4% of Greek inmates, compared with 19% of Scottish inmates and 13.6% of the general population (Ioannidi *et al.*, 2001) would object to sharing working facilities with a person with AIDS. With regard to the continuation of contact with an HIV infected friend, 16.1% of prisoners would be afraid to continue to do so. This figure compares with 14% of the Scottish inmates' sample and with 16.8% of the Athenians' sample (nevertheless, the relevant question in that survey referred to their partner). 86% of Greek inmates agreed with the provision of IDUs with free needles and syringes. The relevant figure for Scottish inmates was 85.9%. 81.4% of Greek inmates, compared with 90.0% of Scottish inmates, disagreed with the notion that those who contracted AIDS through injecting drugs, do not deserve any medical care. With regard to restaurants and public toilets, 19% of Greek inmates, compared with 9% of Scottish inmates, were in favour of restricting people with AIDS from being in such places. On the issue of whether children infected with AIDS should be allowed to attend school with uninfected children, 20.2% of Greek inmates, compared with 15% of Scottish, disagreed. Finally, compulsory

² This study is actually a replication of the 1990 Athens KABP study. It was conducted within the European Project "Europe against AIDS", DG V on a national representative sample of 2,000 Greeks. Data are currently being elaborated.

blood testing for all Greeks and foreigners was supported by 90.9% of Greek inmates, but only by 58% of Scottish prisoners.

The above comparisons indicate that Greek inmates seemed to be more conservative than Scottish inmates on the majority of HIV/AIDS issues investigated and confirmed a previous comparative study of attitudes between Greek and Scottish University students (Koulierakis *et al.*, 1994). On the other hand, Greek inmates seemed to be more liberal than were Athenians at the beginning of 1990's, at least on the issues regarding the visit of a doctor who regularly treats people with AIDS. The difference with Athenians could be attributed to the different time the two surveys were conducted. The study among Athenians was conducted at the beginning of 1990's, the first period of the AIDS epidemic, where people's attitudes could be characterised as "hysterical" (Weeks, 1989). There is evidence that world-wide, HIV infected persons were losing their jobs and homes, children with AIDS had been denied access to public schools, and lesbians and gay men were not being served in the restaurants (Fineberg, 1988; Weeks, 1989). In Greece the phenomena of social ostracism of people with HIV/AIDS has also been reported, during the first period of appearance of AIDS (Chliaoutakis *et al.*, 1993). On the other hand, the current study was conducted in a period where AIDS has been "normalised" in Greek society and the moral judgements towards people infected by the HIV virus have lessened. Nevertheless, when compared with the Greek general population at the end of 1990s', Greek inmates seemed to be more conservative in their opinions and more in favour of segregating people with AIDS. This is possibly explained by the fact that although early "hysteria" seems to have diminished, prejudice and discrimination against people with HIV/AIDS may be more resistant to change (Välimäki *et al.*, 1998). At the same time, Greek inmates have less access than the (free) general population to HIV/AIDS-related health education messages, as the relevant material (e.g. leaflets) is

scarce within Greek penal institutions.

Inmates with a history of drug use (IDUs) were to a greater extent more liberal in their attitudes than non-IDU inmates. This trend was also identified in the Scottish study among inmates (McKee *et al.*, 1994) and was also confirmed by a recent French study among inmates (Delorme *et al.*, 1999). As surveys on attitudes among injectors are scarce, an explanation of this trend may exist with regard to how members of this group perceive themselves and the others. A recent series of studies on the psychosocial identity of Greek drug users (Riga, 1997) indicated that injectors' social representations of the self are fatalistic ("sentenced", "dead", "without future"), characteristics which may also apply to people with AIDS. At the same time, IDUs were represented by other non-injecting drug users as a group of low esteem (Riga, 1997) and by the general population as one of the main groups infected with HIV/AIDS (Chliaoutakis *et al.*, 1993), despite the completely different epidemiological pattern of AIDS in Greece (which indicates drug use as the least cause of AIDS). From this perspective, IDUs, as members of a group already stigmatised for their behaviour, may empathise with the members of another socially stigmatised group (people with HIV/AIDS), irrespective of the way the infected people contracted HIV/AIDS (McKee *et al.*, 1994). On the other hand, non-IDUs inmates, although people in prison (thus potentially "deviants"), may not perceive themselves as socially deviant, in comparison to people with HIV/AIDS, and therefore are more likely to discriminate individuals with HIV/AIDS. The above explanation may reflect the broader phenomenon of the derogation of perceived members of "out-groups", in comparison to members of "in-groups" (Levin and Chapman, 1990; Chliaoutakis *et al.*, 1993).

Both IDU and non-IDU inmates expressed similar attitudes on two prison-related issues: both were in favour of provision of free needles, syringes and condoms to IDUs. In Greece, anyone (including an IDU) at liberty is able to buy clean syringes from a

pharmacy, without a prescription, or any other obstacle. It is therefore reasonable to assume that the attitudes of the two inmate groups referred to the possibility of providing free needles and syringes in prison. This is a major issue worldwide. Although the provision of free injecting equipment within prisons has been successfully implemented in the Swiss prison system (Nelles *et al.*, 2000) there still remains a reluctance to accept this policy in almost all prison systems worldwide, including of course Greece. Both IDUs and non-IDUs, perhaps realising the positive consequences of such a measure in reducing the potential harm from drug use, expressed their agreement for such a policy. On the other hand, both groups of inmates expressed a conservative attitude towards an issue related to their life in prison: Their right to refuse to share a cell with an HIV/AIDS infected inmate. The Greek Law orders that inmates with AIDS are removed from the institutions and either kept in the prison hospital, or released at the latest stages of the disease. It is therefore almost impossible for an inmate to knowingly share a cell with a person diagnosed with HIV/AIDS. By strongly holding this particular attitude, Greek inmates might express their worry and perhaps their protest against the overcrowding conditions of that particular institution and the potential dangers on their health due to that situation.

Both groups expressed their most restrictive attitudes on the issues of applying compulsory blood testing for all those living in the country, as well as for those coming from countries where HIV/AIDS rates are high. Not only are such measures inexpedient, they are also likely to be ineffective in controlling AIDS. Thus, this suppressive attitude may reflect a more general suppressive attitude towards the presence of foreigners per se and an attitude in favour of stricter controls on foreigners' entering the country. Indications of such a "phobia of foreigners" have been common in Greece during the last decade, targeted mostly at the Albanians. This also applies to the prison environment, as one of the characteristics of Greek prisons in general and the Judicial prison of Korydallos, in

particular, is the large number of foreign inmates.

In the present Greek study, factor analysis revealed five factors, some of which are similar to those identified in the Scottish study among inmates (McKee *et al.*, 1995). Nevertheless, the factors identified among the Greek inmate sample are completely different from the three factors (discrimination, stigmatisation and fear) identified by Chliaoutakis *et al.* (1993) in their study of the Athenian population. This difference may be attributed to different attitude items used in the two Greek studies and the different type of population investigated.

Some associations between attitude factors and specific demographic and psychosocial variables, although not all of them statistically significant, could be interpreted here. Greater objection towards social isolation of people with AIDS (Factor One) was associated with perceiving self as less susceptible to AIDS, perceiving AIDS as less severe and believing to a lesser extent that chance was the locus of health control. Combined with the identified high levels of HIV/AIDS related knowledge among inmates (presented in the following Chapter), these associations indicate that Greek inmates were able to apply their knowledge in rationally estimating the (minimal) risk associated with social contact with people with AIDS. Greater support for providing free condoms to IDUs and homosexuals and free needles/syringes to IDUs (Factor Three) was found among those IDUs inmates who couldn't resist in injecting drugs if they had the opportunity (the "cost" component of the HBM). Inmates in this study were highly aware of the basic modes of HIV protection (condom use and clean needles). On the other hand, IDUs inmates seemed to realise that they were vulnerable to their urgent need for drugs and the potential harms stemming from sharing injecting equipment. Thus, Greek IDUs inmates seemed to perceive provision of free needles as crucial for their safety as a means of AIDS prevention. A more favourable attitude toward being close to HIV treatment places

(Factor Four) was associated with lower sense of AIDS severity and greater perception of powerful others controlling ones own health. In Greece, AIDS-specialised doctors treat people with AIDS in hospital units for infectious disease. These doctors are considered as having absolute power for combating the disease and control over an infected person's health and people with AIDS trust them most (Tselepi *et al.*, 2000). On the other hand, when inmates face a serious medical situation, they are transferred to one of these hospitals, or when at liberty they may live near to such a hospital. Under these circumstances, inmates seem to be familiar with "AIDS treatment places", as they might have already been treated in such places.

Inmates' answers on perceived HIV self-risk and AIDS concern items showed that Greek inmates perceived themselves at a higher risk for getting AIDS and concerned for AIDS as a problem to their health more, inside than outside prison. These results are in the opposite direction of the results in Scottish prisons (Power *et al.*, 1994), where HIV risk was perceived as considerably higher prior to than during incarceration. A potential explanation of this pattern among Greek inmates might be the public and prisoners' representations of prison as generally negative, a place full of "criminals", "junkies", "rapers" and "murderers" (National Centre of Social Research, 1988; Riga, 1997). Nevertheless, in the present study, inmates were asked about their own lifestyle in and out of prison. Although the levels of high risk sexual activity inside Greek prisons is apparently negligible (see Chapter 9), relevant research in Greece and internationally (Dolan, 1997; Malliori *et al.*, 1998a; 1998b; Jürgens, 2000; Jacob and Stöver, 2000) has confirmed that while in prison, IDUs share injecting equipment significantly more than outside, thus placing themselves at a high risk for HIV transmission. At the same time, Greek prisons are overcrowded with poor hygiene and inmates are forced to share cells and other facilities. Given the identified gaps on Greek inmates' knowledge of risk of HIV

transmission in the prison environment (see § 7.5.3 on Chapter 7), it seemed logical that Greek inmates were able to understand that while in prison they were more at risk - IDUs, due to their own lifestyle and non-IDUs, due to the living conditions in prisons.

When inmates' own HIV perceived risk inside and outside prison was examined in relation to an average inmate's and an average member's of the general public HIV risk, it was found that groups of Greek inmates underestimated their own risk and thought that they were less at risk both inside and outside prison. At the same time, inmates reported higher levels of concern about their general health, than levels of concern about AIDS and they valued their health very high. I am not aware of what inmates perceive as an "average inmate" or an "average member of the general public". In any case, these results confirmed the existence of optimistic bias (Weinstein, 1980; 1984) and are in line with previous research in Scottish prisons (Markova *et al.*, 1997) and other studies among IDUs (Kelaher and Ross, 1992; Crisp *et al.*, 1993; Henson *et al.*, 1998). It is expected that optimistic bias is likely to appear when risk for a negative event is compared between oneself and a general other (Weinstein, 1982). There is also evidence that Greek IDUs at liberty deny any potential risk for AIDS (Kokkevi *et al.*, 1992). Given the fact that Greek IDUs are continuing to engage in high risk behaviours, both inside prison (Malliori *et al.*, 1998a) and while at liberty (Kornarou *et al.*, 1999), combined with the fact that Greek inmates reported unprotected vaginal and anal intercourse prior to their incarceration (see Chapter 9) and that significant misconceptions on the methods of preventing HIV transmission were identified (see § 7.5.2 on the following Chapter), the existence of optimistic bias may represent an adaptive mechanism (Douglas, 1986; Markova *et al.*, 1997) to cope with prison and outside life.

This study also explored whether inmates distinguished between personal concern about HIV/AIDS and perceived risk, as international previous research (Prohaska *et al.*,

1990; McKee *et al.*, 1995; Markova *et al.*, 1997) has indicated. In line with this research, results of the current study showed that Greek inmates evaluate the notion of "perceived risk" separately, in both a cognitive and an emotional level. Indeed, levels of AIDS concern were significantly greater than the sense of HIV self-risk outside and inside prison for both IDU and non-IDU inmates. Nevertheless, such a superficial type of comparison between the two risk evaluations may be just one indicator of the different meaning risk had for Greek inmates. The enhanced level of AIDS worry may just represent the inmates' emotional response to the "AIDS presence" in Greece. Although AIDS "is presented" in the Greek society only once a year (on the World AIDS Day, December the 1rst) and whenever an AIDS-related incident takes places (i.e. cases where "innocent" people may be infected, by let's say blood products), these "appearances" give rise to so much publicity by the media that the disease is far from being perceived as "normal". The present study took place in February, a time period that was close to "the World AIDS Day" and inmates' worry as tapped in the survey may just be the echo of that day. Additionally, only the cognitive estimates of HIV risk were significantly associated with specific demographic variables. Those inmates involved in an unstable relationship prior to incarceration perceived themselves significantly more at risk than those with a stable relationship, while the less educated inmates thought they were at risk inside prison more than those with higher education. Being in an unstable relationship outside prison actually enhances the chances to get infected with the HIV, while being less educated one might have limited access to the available AIDS-related information in prison. As a consequence, the levels of perceived risk are enhanced. Both cognitive and emotional estimates were associated with the susceptibility and severity components of the Health Belief Model. As the susceptibility component of the HBM actually represents the concept of perceived risk, the positive association identified in this survey is rather self-evident. On the other hand,

an enhanced sense that AIDS is a serious disease was associated with enhanced levels of worry about AIDS and increased levels of perceived risk, both outside and inside prison.

As with previous research in the area (McKee *et al.*, 1995), the direction of associations between perceived risk/concern items and the attitude factors found in the present study - although not statistically significant - confirmed that lower levels of perceived risk and concern are associated with more liberal attitudes towards people with AIDS. Such an attitude seems to be the logical consequence of the optimistic bias characteristic of Greek inmates' assessments regarding the HIV-risk of self in relation to others. Since inmates believe that "others" are at greater danger than themselves, they believe that health authorities should equip them with the necessary means to protect themselves and other people.

When I examined the determinants of perceived self-risk inside prison, I identified specific penal and psychological variables as independent predictors. In the current study, total time in prison was one of these predictors. The less time an inmate had spent in prison, the more he perceived himself to be at HIV risk. Being in prison for a short period means that an inmate is not able to realise that AIDS is not a real problem in Greek prison, despite the high-risk behaviours practised by some inmates. As already mentioned, the chances for a Greek inmate knowingly to be in contact with a person diagnosed with AIDS is minimal, as the Greek penal Code requires these people to be transferred into the prison hospital. Those inmates who were in favour of adopting restrictive practices (compulsory blood tests for all and for the foreigners entering Greece) were also more prone to perceive themselves at HIV risk. Given the irrationality of such an attitude, as regards the effectiveness of these measures in combating AIDS, it seems that a kind of "AIDS phobia" is still present among Greek inmates, despite the "normalisation" of AIDS. This argument perhaps also explains the rather peculiar finding that those inmates, who

perceived AIDS as more severe, thought themselves at a lower HIV-risk. Otherwise, this latter finding could be attributed to the optimistic bias, in the sense that inmates may think that although AIDS is a severe disease, it concerns others and not themselves. AIDS concern inside prison was also found to be an independent predictor of HIV perceived risk inside prison, confirming previous findings from the general population (Prohaska *et al.*, 1990). This finding could to some extent justify an AIDS intervention programme for prisoners triggering their emotional reactions, which in turn might increase their perceptions of HIV risk. Nevertheless, such an intervention needs to take into account whether a potential increase in risk perception will actually lead to an actual behaviour change. Data from the relevant research, presented by Henson *et al.* (1998) are nevertheless far from confirming this association. Finally, the belief that powerful others control own health emerged as an independent predictor of perceived self-risk inside prison. There is evidence that high levels of personal vulnerability to an illness are linked to a decreased sense of personal control over one's health (Taylor, 1983, cited in Markova *et al.*, 1997). The present findings seem to confirm this notion. By believing that others (and not themselves) control their health, Greek inmates seemed to be more vulnerable to a certified health threat, such as AIDS.

The factors I identified as independent predictors of inmates' perceived self-risk inside prison were different – with only one exception - from those identified in previous research (Kowalewski *et al.*, 1997; Henson *et al.*, 1998). For instance, in the present study the measures of sexual behaviour prior to incarceration were not at all associated with perceived risk, unlike previous findings (Henson *et al.*, 1998) that identified such associations. This discrepancy may be due to the different orientation of the two studies, the different sample sizes and the different research questions posed.

The above results on attitudes and perceptions of HIV risk among Greek inmates

showed two important characteristics of the group studied: 1) Greek inmates held in general, liberal attitudes towards a number of HIV/AIDS related issues, although less liberal than the Greek general population. This finding calls for AIDS education interventions specifically targeted to inmates. The reported differences on attitudes between the Greek general population and the inmate population indicate that the messages addressed for the public have not reached inmates. Additionally, the interventions should be group oriented, as IDUs and non-IDUs inmates expressed different types of attitudes. 2) Greek inmates perceived prison as a generally risky place, at least riskier than the outside world. IDUs inmates were in favour of providing free needles and syringes to all IDUs. Both IDU and non-IDU inmates called for the right of an inmate to refuse to share a cell with an infected person. Inmates were in favour of adopting restrictive protection measures (compulsory blood test for all and the foreigners) in order to control AIDS. Given the fact that Greek prisons are unhygienic and overcrowded, with a high proportion of foreigners and with a very low prevalence of HIV among the incarcerated population (Malliori *et al.*, 1998a), Greek inmates seem to perceive prison as a high risk place, irrespectively to the presence of AIDS.

Summary

In this Chapter I examined for the first time in Greek prisons, inmates' attitudes and perceptions of self and others' HIV risk and AIDS concern. Synthesising the findings, it is suggested that Greek inmates held generally positive attitudes towards AIDS related issues, although indications of conservatism were also apparent, especially among non-IDUs and the less educated inmates. I also identified five attitude factors, namely "Objection towards social isolation of people with HIV/AIDS", "Medical care provision", "Measures of prevention for high-risk groups", "Being close to HIV treatment places", and "Restrictive practices". Inmates perceived themselves as at higher HIV risk and worried more about AIDS inside prison than outside. At the same time they worried much about their general health. In comparison to an average member of the public and an average inmate, they thought that they were less at risk for HIV. Factors predicting inmates' self perceived HIV-risk inside prison included total time in prison, attitudes in favour towards adopting restrictive practices, AIDS concern inside prison, beliefs on AIDS severity and beliefs on the role of powerful others in controlling health. Results were discussed in relation to other patterns of HIV-related attitudes and HIV-risk perceptions from previous European studies among prison populations and findings from the Greek general population.

CHAPTER 7: Phase 2: HIV/AIDS related knowledge of inmates in Greek prisons

7.1 Introduction

Data presented in the previous Chapters (4 and 5) showed that at a national level, a significant proportion of Greek inmates (more than 33%) reported a lifetime prevalence of drug injection. A significant majority of them (60%) reported injection sometime while in prison, while the overwhelming majority of injectors in prison (146/174, 83.9%) reported sharing injecting equipment while incarcerated. Additionally, the study identified that the correlates of HIV risk behaviour among imprisoned IDUs in Greece were primarily associated with the prison career of an IDU. More specifically, total time in prison, previous drug conviction, being a convict (as opposed to on remand) and having multiple female sexual partners one year before incarceration were significant HIV risk behaviour correlates.

Phase 1 of the study, although conducted at a national level, addressed a rather limited number of issues, while on a primarily a-theoretical basis. Following Phase 1, it was decided to focus on a smaller sample of inmates and elaborate in greater detail additional HIV-related issues, like inmates' HIV/AIDS related knowledge, their attitudes and perceptions of HIV risk, with an emphasis on inmates' HIV-related behaviour from a theoretical perspective.

In this Chapter is again presented data from Phase 2 of the study among Greek prisoners. In particular, this Chapter focuses upon inmates' HIV/AIDS-related knowledge. Previous international and Greek research on inmates' knowledge suffers from serious methodological problems and has produced contradictory results. Such research has been

primarily descriptive. It has used samples of different sizes, and HIV/AIDS-related knowledge measures of unknown validity and reliability. Finally, it has been conducted on different socio-cultural backgrounds, thus making direct comparisons between inmate populations difficult (O' Mahony, 1989; Conolly, 1989; Turnbull *et al.*, 1991; Zimmerman *et al.*, 1991; O' Mahony and Barry, 1992; Power *et al.*, 1993; 1996; Delorne *et al.*, 1999; Slonim-Nevo, 1992/93; Robertson and Levin, 1999; Gnardellis and Agrafiotis, 1992; Chliaoutakis *et al.*, 1993; Koulierakis *et al.*, 1994; Malliori *et al.*, 1994; 1998b).

The current study tries to rectify some of these gaps. Given the reported differences among prison populations in levels of HIV/AIDS related knowledge, plus the lack of any systematic and rigorous research on this topic within the Greek penal system, it was thought appropriate to attempt an assessment of the levels of HIV/AIDS knowledge among Greek prisoners, by using for the first time in Greece a detailed validated measure. Additionally, as this measure was based on previous similar research among Scottish inmates (Power *et al.*, 1993; 1996), it allows direct cross-cultural comparisons. Finally, the current study tries to associate HIV/AIDS levels of knowledge with psychosocial variables from the SCMs, thus adding a theoretical perspective. This is especially important if HIV/AIDS education programmes are to be appropriately targeted to meet the needs of this potential high-risk population. In addition, up to date estimation of knowledge levels among target groups is necessary as the amount of knowledge regarding HIV/AIDS may alter as the pattern of the epidemic changes.

7.2 Subjects and procedure

As mentioned in the previous Chapter, in the second phase of the study among Greek inmates, a representative sample of Greek male population of the judicial prison of Korydallos - the biggest in Greece (N = 242) was invited and participated. After permission was granted, the selected inmates were seen in privacy and offered a body of questionnaires together with an open envelope. All inmates were previously informed about the overall procedure of the study, they were offered assurances of anonymity and confidentiality, while the voluntary character of participation was particularly stressed. Those who did not want to take part were free to do so. As the questionnaires required time to be completed, inmates were asked to take them to their cells, to fill them in, and return the sealed envelop with the questionnaires to the researcher on his next visit to the prison (in two days). The response rate was 58.2%. The basic demographic and penal characteristics of the sample, as well as the methodology of the study are presented in detail in Chapter 6 (pp. 160).

7.3 Measures

Data regarding inmates' HIV/AIDS knowledge were gathered by means of a self-completed HIV/AIDS knowledge questionnaire for prisoners. The questionnaire was based on a similar measure used in a series of studies in Scottish prisons (Power *et al.*, 1993, 1996). The knowledge scale used in the current study consisted of 19 items, each with a choice of three responses - 'true', 'false' or 'do not know'. The 19 items were combined into 3 sub-scales, each of which tapped inmates' knowledge about specific content areas of HIV/AIDS. The three content areas were as follows: knowledge of (a) *high-risk modes of transmission*, which comprised 5 items (items B.2, B.10, B.11, B.14, and B.19); (b) *methods*

of preventing transmission, which comprised 7 items (items B.3, B.5, B.7, B.12, B.13, B.15, and B.17); and (c) of risk of HIV transmission in prison environment, which comprised 7 items (items B.4, B.6, B.8, B.9, B.16, B.18, B.20). In all items of the Greek questionnaire, we used the term 'AIDS', instead of its Greek translation to refer to both HIV and AIDS. This occurred because the term "AIDS" has prevailed in Greek society, (Agrafiotis, 1988). Prior to the list of the 19 knowledge questions, inmates were asked to assess their perceived knowledge in a 5-point scale, from 1 = "Hardly anything" to 5 = "A great deal". The knowledge questionnaire showed a high reliability coefficient (Cronbach, 1951), for both the whole sample (Cronbach's $\alpha_{total} = .67$) and for the subsamples of IDUs ($\alpha_{IDUs} = .65$) and non-IDUs inmates ($\alpha_{non-IDUs} = .69$).

Also used in the analyses presented in this sections are some scales (i.e. the attitude scale, the HBM, the MHLOC and the Health Value scale), which were described in detail in the "Measures" section (§ 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5) of the previous Chapter.

All measures described in this section are presented in APPENDIX 3.

7.4 Analyses

The statistical analysis in this phase of the study was undertaken by univariate (Chi-square) analysis and modelling the data through regression models (Hosmer and Lemeshow, 1989) using SPSS statistical package (version 8.0, SPSS Inc., Chicago).

7.5 Results

7.5.1 Knowledge of high risk modes of transmission

The pattern of correct, incorrect and 'do not know' answers among IDUs and non-IDUs on the items of this knowledge sub-scale are presented in Table 7.1. As shown in the Table, both IDUs and non-IDUs were very well informed about the basic high-risk modes of HIV transmission, that is heterosexual vaginal intercourse (item B.11), homosexual anal intercourse (item B.10) and occasional sharing of needles/syringes (item B.19). Nevertheless, 44.5% of IDUs and 43.4% of the non-IDUs were ignorant about the risk associated with heterosexual anal intercourse (item B.14). Additionally, a very high percentage of inmates in both groups -77.7% among IDUs and 79.6% among non-IDUs - erroneously believed that if IDUs avoided sharing needles, they could share other items of injecting equipment with no risk of becoming infected with HIV (item B.2). The two groups differed significantly in only one item of this knowledge sub-scale. In particular, 25% of non-IDUs did not know that HIV/AIDS could be transmitted between people who only share needles / syringes occasionally, compared with only 5% of IDUs who did not know this fact ($\text{Chi}^2 = 18.2; \text{df} = 2; p < 10^{-3}$).

Table 7.1 Knowledge of high risk modes of HIV transmission amongst IDUs (N = 103) and non-IDUs (N = 139) inmates

Item	IDUs			non-IDUs			x ²	p
	Correct %	Incorrect %	D/N %	Correct %	Incorrect %	D/N %		
B.11 A man can become infected with HIV/AIDS by having vaginal intercourse with an infected woman (T)	95.0	1.0	4.0	92.8	0.7	6.5	0.78	ns
B.10 HIV/AIDS can be transmitted between men who have anal intercourse (T)	87.3	-	12.7	89.1	1.5	9.5	2.08	ns
B.19 HIV/AIDS cannot be transmitted between people who only share needles / syringes occasionally (F)	74.3	20.8	5.0	63.2	11.8	25.0	18.2	10 ⁻³
B.14 A man cannot be infected with HIV/AIDS by having anal intercourse with a woman (F)	55.4	28.7	15.8	56.6	23.5	19.9	1.13	ns
B.2 IDUs are at risk of becoming infected with HIV if they share needles / syringes, but they are not if they share other items of injecting equipment (e.g. cooking-up spoons. (F)	11.7	77.7	10.7	5.1	79.6	15.3	4.15	ns

Key: (T) = Item scored as true, (F) = Item scored as false

7.5.2 Knowledge of methods of preventing transmission

The responses of inmates on the items of "knowledge of methods of preventing HIV transmission" sub-scale are presented in Table 7.2. As can be seen, the vast majority (more than 90%) of inmates from both groups knew that the risk of contracting AIDS was reduced by IDUs keeping a complete set of works for their own exclusive use (item B.17) and by regularly using a condom (item B.3). A significant majority of IDUs (70%) knew that having sex only with partners of the opposite sex isn't an effective way of protection from HIV/AIDS (item B.15) while an almost similar percentage (66.7%) knew that reducing the number of sexual partners also reduces the risk (item B.13). The corresponding percentages for non-IDUs were also high, namely 58.7% and 73.7%. The majority of non-IDUs (51.8%) and a substantial minority of IDUs (46.6%) did not know or erroneously believed that people could effectively protect themselves from HIV/AIDS by only having sex with people who look fit and healthy (item B.5). The same pattern emerged when inmates were asked to assess the comparative risk of HIV transmission by vaginal and anal sex. 51% of non-IDUs and 46.6% of IDUs did not know or erroneously believed that having vaginal rather than anal sexual intercourse is an effective way of preventing transmission of HIV (item B.7). The two groups showed significant differences in their answers in two items of this knowledge section. A significantly higher percentage of non-IDUs (41.2%) than IDUs (19.6%) did not know that drug users could reduce their chances of contracting AIDS by soaking previously shared works in a solution of bleach before re-using them (item B.12) ($\text{Chi}^2 = 23.9$; $\text{df} = 2$; $p < 10^{-3}$). Nevertheless, the alarming thing emerged from this item was that more than one third of IDUs (34.3%) did not recognize this method as effective. Of non-IDUs, 22.5% did not know that IDUs could protect themselves from HIV/AIDS by keeping a complete set of works for their own exclusive use. On the other hand, all, but a very small percentage of IDUs were aware of this method of prevention, thereby illustrating a further significant difference between these two groups. ($\text{Chi}^2=26.5$; $\text{df}=2$; $p<10^{-3}$).

Table 7.2 Knowledge of methods of preventing HIV transmission amongst IDUs (N = 103) and non-IDUs (N = 139) inmates

Item	IDUs			non-IDUs			x ²	P
	Correct	Incorrect	D/N	Correct	Incorrect	D/N		
	%	%	%	%	%	%		
B.17 By keeping a complete set of works for their own exclusive use, IDUs can protect themselves from HIV/AIDS. (T)	93.1	6.9	-	73.9	3.6	22.5	26.5	10 ⁻³
B.3 You can reduce the risk of contracting HIV/AIDS by using a condom every time you have sexual intercourse (T)	92.2	1.0	6.8	92.8	2.2	5.0	0.82	ns
B.15 Having sexual intercourse only with partners of the opposite sex in an effective way by which people can protect them selves from HIV/AIDS (F)	70.0	17.0	13.0	58.7	28.3	13.0	4.29	ns
B.13 You can reduce your chance of contracting AIDS by reducing your number of sexual partners (T)	66.7	22.5	10.8	73.7	19.0	7.3	1.58	ns
B.12 IDUs can reduce their chances of contracting AIDS by soaking previously shared works in a solution of bleach before re-using them (T)	65.7	14.7	19.6	33.8	25.0	41.2	23.9	10 ⁻³
B.5 People can effectively protect them-selves from AIDS by only having sex with people who look fit and healthy (F)	53.4	21.4	25.2	48.2	33.1	18.7	4.39	ns

Key: (T) = item scored as true; (F) = item scored as false

Table 7.2 (cont.) Knowledge of methods of preventing HIV transmission amongst IDUs (N = 103) and non-IDUs (N = 139) inmates

Item	IDUs			non-IDUs			x ²	p
	Correct	Incorrect	D/N	Correct	Incorrect	D/N		
	%	%	%	%	%	%		
B.7 Having vaginal rather than anal sexual intercourse is an effective way of preventing transmission of AIDS (F)	53.4	22.3	24.3	48.9	25.5	25.5	0.52	ns

Key: (F) = item scored as false

7.5.3 Knowledge of risk of HIV transmission in prison environment.

The responses of inmates on the sub-scale regarding knowledge of risk of transmission in the prison environment are presented in Table 7.3. As can be seen, a significant majority of both groups (66.3% of IDUs and 58.8% of non-IDUs) were aware of the fact that HIV is not transmitted if one eats food prepared by a person with AIDS (item B.18). Nevertheless, significant knowledge gaps appeared among inmates from both groups. Significantly large majorities of both IDUs (40.2% - 72.5%) and non-IDUs (41.8% - 68.4%) were uncertain or believed that they were at risk of HIV transmission via spit or vomit (item B.6); breathing in air in which someone with AIDS has sneezed or coughed (item B.16); kissing in the mouth (item 9); urine and faeces (item 8); and biting (item B.4). Furthermore, a significant majority of IDUs (62.3%) and a marginal majority of non-IDUs (52.2%) did not know or erroneously believed that one is at risk of HIV transmission during a fight with an HIV/AIDS infected person (item B.20). There were no significant differences in the answers to the questions of this knowledge section between the two groups of inmates.

Table 7.3: Inmates' knowledge of risk of HIV transmission in prison environment, amongst IDUs (N = 103) and non-IDUs (N = 139)

Item	IDUs			non-IDUs			x ²	P
	Correct %	Incorrect %	D/N %	Correct %	Incorrect %	D/N %		
B.18 It is very possible for a person to become infected with HIV/AIDS by eating food prepared by someone who is HIV infected (F)	66.3	7.9	25.7	58.8	11.0	30.1	1.50	ns
B.6 You run a high risk of becoming infected with HIV/AIDS if an infected person spits or vomits on you (F)	59.8	6.9	33.3	58.3	9.4	32.4	0.47	ns
B.16 It is rather unusual to become infected with HIV/AIDS by breathing in air in which someone with AIDS has sneezed or coughed (T)	41.6	34.7	23.8	53.6	21.7	24.6	5.33	ns
B.9 If you kiss someone in the mouth who is infected with HIV/AIDS, you will also become infected (F)	40.8	27.2	32.0	45.3	29.5	25.2	1.38	ns
B.20 You run a high risk of becoming infected with HIV/AIDS during a fight with an HIV/AIDS infected person (F)	37.6	35.6	26.7	47.8	32.6	19.6	2.87	ns
B.8 You run a high risk of becoming infected with HIV/AIDS if an infected person throws their urine or shit on you (F)	34.0	14.6	51.5	46.0	17.3	26.7		ns
B.4 You run a high risk of becoming infected with HIV/AIDS if an infected person bites you (F)	27.5	19.6	52.9	31.7	28.1	40.3		ns

Key: (T) = item scored as true; (F) = item scored as false

7.5.4 Perceived knowledge of AIDS

When inmates were asked to self-assess their level of AIDS knowledge, members from both groups thought that they knew 'a medium amount' about AIDS ($\text{mean}_{\text{IDUs}} = 3.0$; $\text{mean}_{\text{non-IDUs}} = 3.1$), with no significant difference between groups.

7.5.5 The "correct knowledge" index

In order to assess and compare the level of knowledge among inmates for each of the sections of the questionnaire, an index of "correct knowledge" among IDUs and non-IDUs inmates was calculated, by adding the number of correct answers and then dividing this number with the total number of questions in each section. It was assumed that this index expressed both the quality and the quantity of knowledge possessed by an inmate. The mean scores of "correct knowledge" of IDUs and non-IDUs in the three knowledge sub-scales are presented in Table 7.4. As can be seen in Table 7.4, both groups presented a relatively high level of "correct knowledge" in both the high-risk modes of HIV transmission section and the section regarding the methods of preventing HIV transmission. IDUs presented a statistically significantly higher index of "correct knowledge" of methods of preventing HIV transmission than non-IDUs ($t(216) = 3.1$; $p < .005$). On the other hand, for both groups, the level of inmates' "correct knowledge" of risk of HIV/AIDS transmission in the prison environment was relatively low.

Table 7.4 Mean "correct knowledge" scores in the three knowledge sections, amongst IDUs (N = 103) and non-IDUs (N = 139)

Section	"Correct knowledge"		t	p<
	IDUs	Non-IDUs		
Knowledge of high risk modes of transmission	.64	.61		
Knowledge of methods of preventing HIV transmission	.70	.61	3.1	.005
Knowledge of risk of HIV transmission in prison environment	.43	.49		

7.5.6 Correlates of inmates' correct knowledge

In order to establish whether inmates' correct knowledge was associated with their demographic characteristics, prison career and specific beliefs arisen by the psychosocial models, specific analyses were conducted. Results are presented in Table 7.5. Again, for the purposes of the analyses presented in this section, some of the demographic variables were re-coded: Family status {Initially: ["married" and "cohabit"] = 1 ("In a stable relationship"); ["unmarried", "divorced", "separated", "widower"] = 0 ("Not in an stable relationship")}. Educational level {Initially ["illiterate", "primary"] = 1 ("Up to primary education"); ["secondary", "high school"] = 2 ("Secondary education"); ["higher", "university"] = 3 ("Higher education")}.

Table 7.5 Associations between inmates' demographic characteristics, prison and psychosocial variables and HIV/AIDS-related correct knowledge (N = 242)

	Correct knowledge	p <
Age	ns	
Total time in prison	ns	
Marital status	ns	
Educational level	F = 13.69	10 ⁻³
Attitude factors		
1. Objection towards social isolation of people with HIV/AIDS	r = .48	10 ⁻³
2. Medical care provision	r = .20	10 ⁻³
3. Measures of prevention	ns	
4. Being close to HIV treatment places	ns	
5. Restrictive practices	r = .15	.05
General Health concern	r = -.18	.01
AIDS concern before incarceration	ns	
AIDS concern inside prison	r = -.30	10 ⁻³
HIV perceived risk outside prison	ns	
HIV perceived risk inside prison	r = -.31	10 ⁻³
HBM		
Susceptibility	r = -.33	10 ⁻³
Severity	r = -.27	10 ⁻³
Benefit (sexual)	ns	
Benefit (drug use) ^a	ns	
Benefit (drug use) ^a	ns	
Cost (sexual)	ns	
Cost (drug use) ^a	ns	
Cost (drug use) ^a	ns	
Health Value	ns	
MHLC		
IHLC	ns	
POHLC	r = -.19	.005
CHHLC	r = -.30	10 ⁻³

a = only for IDUs (N=103)

As can be seen in the Table 7.5, from the demographic and penal variables, there

was no significant relationship between age, total time in prison, or family status and inmates' correct knowledge. Nevertheless, inmates with higher education obtained a higher correct knowledge score than inmates of up to primary or secondary educational level (means: 'higher education' = .72; 'secondary education' = .59; 'up to primary education' = .49, post-hoc Scheffe, $p < 10^{-3}$). With regard to attitude factors (see § 6.6.2, in Chapter 6), higher levels of correct HIV/AIDS-related knowledge were associated with greater tolerance for interacting with people with HIV/AIDS (Factor One) ($r = .48$) and with more favourable response to the provision of medical care (Factor Two) ($r = .20$). Nevertheless, it was also associated with more favourable response to adoption of restrictive practices (Factor Five) ($r = .15$). With regard to concern and risk items, higher correct knowledge was associated with lower general health concern ($r = -.18$), lower AIDS concern inside prison ($r = -.30$) and lower HIV perceived risk inside prison ($r = -.31$). From the psychosocial variables, inmates' correct knowledge was associated with lower HIV susceptibility ($r = -.33$) and lower perceived AIDS severity ($r = -.27$). Finally, inmates with higher knowledge believed less that powerful others ($r = -.19$) or chance ($r = -.30$) controlled their health.

In order to assess the potential predictors of inmates' total correct knowledge, a linear regression model was computed. In the model, the standardised beta weights derived from the regression equation described the relations between the above-mentioned demographic, penal and psychosocial variables, while controlling for mutual confounding. The model was applied to those inmates who valued their health high (above the median: 22), as the relevant theory requires (Lau *et al.* 1986; Wallston, 1992). The analysis involved only one step, in which all potential predictors entered into the model simultaneously. The results of this analysis are presented in the Table 7.6.

Table 7.6: Regression of inmates' correct knowledge on demographic, penal and psychosocial variables

	R ² (adjusted)	Beta
	.464	
Age		-,178*
Total time in prison		,029
Family status		
In a stable relationship		,038
In an unstable relationship (<i>baseline</i>)		
Educational level		
Secondary education		,244***
Higher education		,225**
Interaction with people with HIV/AIDS		,349****
Medical care provision		,028
Measures of prevention		,004
Being close to HIV treatment places		-,037
Restrictive practices		,077
General Health concern		-,127
AIDS concern before incarceration		,106
AIDS concern inside prison		-,282**
HIV perceived risk outside prison		,014
HIV perceived risk inside prison		,133
Susceptibility		-,151
Severity		-,035
Benefit (sexual)		,221**
Cost (sexual)		,157*
IHLC		,126
POHLC		-,136
CHHLC		-,115
Being an IDU		
YES		-,016
NO (<i>Baseline</i>)		

* p < .05; ** p < .01; *** p < .005; **** p < .001

As can be seen, together the factors accounted for 46% of the variance of correct knowledge ($F(23, 91) = 5.28, p < .0001$). The most significant predictor was the attitude

factor one (Objection towards social isolation of people with HIV/AIDS). More specifically, younger and more educated inmates, those being more tolerant for interacting with people with HIV/AIDS, less concerned of AIDS inside prison and those perceiving more benefits and costs from condom use were significantly more prone to possess higher levels of correct HIV/AIDS knowledge.

7.6 Discussion

The results presented in this chapter should be treated with caution regarding their generalisation to the whole population of Greek inmates. This occurs because of the methodological weaknesses related to the recruitment of the sample and the construction of the questionnaire. More specifically, the sample of this study was recruited from only one correctional institution, which – although being the biggest in the country - it could hardly be considered representative of all Greek penal institutions. However, the questionnaire used in this study, unlike all other knowledge questionnaires applied in prison settings, was subjected to reliability test procedures, indicating a satisfactory coefficient for group comparisons.

The above data illustrated that as a group, Greek inmates appeared to be highly knowledgeable, at least regarding some of the basic high-risk modes of transmission via sexual route (homosexual anal intercourse and heterosexual vaginal intercourse) and the basic modes of reducing risk during sexual intercourse (use of condom and reduction of sexual partners). This pattern of results is in line with the findings of Power's *et al.* (1993) study conducted in Scottish prisons and confirms the results of previous research both internationally (Gaughwin *et al.*, 1990; DiClemente *et al.*, 1991; Lurigo *et al.*, 1992) and in Greece (Agrafiotis *et al.*, 1991; Chliaoutakis *et al.*, 1993). Indeed, the figures reported by Power *et al.* (1993) were 95.5% correct responses for the risk of homosexual anal

intercourse, 94.9% for heterosexual vaginal intercourse, 94.2% for the use of condom and 96.8% for the reduction of sexual partners.

Nevertheless, an alarmingly high level of misconception regarding certain sexual practices (especially heterosexual anal intercourse) and the role of these practices in HIV transmission was also apparent. This pattern may be due to the fact that AIDS campaigns - targeted mainly at the general population - have not addressed in detail the potential danger of specific sexual practices. Although doubt exists as to the frequency and type of sexual behaviour practised by inmates, while imprisoned. (Power *et al.*, 1992), data regarding inmates' sexual practices obtained in the context of the present study indicated that unprotected or occasionally protected anal intercourse was practised by almost 70% of inmates prior to incarceration and intended to be practised by 40% of inmates after their release. In the light of these reports, the above mentioned misconceptions call for an urgent health education programme addressing directly the issue of sexual practices in relation to HIV/AIDS. It seems that such ideas of false safety may lead a significant proportion of inmates to continue with this particular sexual practice when released as an ill-conceived risk reduction strategy.

With regard to risk of HIV transmission from injecting drug use, Greek inmates as a group, similar to Scottish inmates (Power *et al.*, 1993), showed high levels of knowledge on the very basic facts (i.e. no risk if one keeps a complete set of works for his own use), but alarmingly high levels of misconception and knowledge gaps, especially in procedural issues of drug use (i.e. sharing of specific works, frequency of sharing, sterilisation methods). These findings are alarming, despite the fact that they have a different weight for the two groups of inmates - IDUs and non-IDUs. Although it would be reasonable for someone to expect low levels of injecting-related knowledge among non-IDUs, the lack of such knowledge is of special concern, when it applies to IDUs. IDU inmates constitute a significant group in Greek prisons and the relevant research has indicated high levels of

sharing behaviour while incarcerated (Malliori *et al.*, 1998a; Dolan, 1997; Jacob and Stöver, 2000), mainly due to inmates' limited opportunities to own new injecting equipment while in prison. These findings suggest the need for a more individualised drug-related educational approach for members of this group while in prison, rather than a general information campaign targeted at inmates as a whole. Additionally, such results call for a realistic harm reduction policy within the Greek prison system (Davies and Shewan, 2000). The paradigm of policy on bleach provision, applied successfully in Australian prisons (Dolan and Crofts, 2000), or other projects, like distribution of syringes, applied in Switzerland (Nelles *et al.*, 2000) could guide relevant initiatives in Greek prisons.

Regarding inmates' knowledge on risk of HIV transmission in prison environment, significant gaps were apparent. A significant minority of inmates perceived fighting related behaviours (e.g. biting, spitting) as highly risky for HIV transmission. Furthermore, even behaviours like sneezing, coughing and eating food prepared by someone who is HIV infected were perceived as possible routes of infection. A similar pattern of findings is also reported by Power *et al.* (1993), for Scottish inmates. Such findings are of particular relevance in relation to two issues. Firstly, the fact that Greek prisons are overcrowded. Secondly that episodes of violence occur very often, especially involving foreign inmates in Greek prisons. These two facts, together with the reported low levels of hygiene may create a climate of insecurity among inmates, regarding their general health. The Greek Ministry of Health has produced and distributed in prisons an HIV information leaflet specially designed for inmates. Nevertheless, it seems that inmates have not assimilated information related to the low level of HIV risk associated with social transmission. More systematic efforts are required in order that AIDS related information is guaranteed to reach inmates.

The comparison of the two groups of inmates showed that there were few significant differences between IDUs and non-IDUs as regards their knowledge in all

content areas. There were only three items in which IDUs were differentiated from non-IDUs. All these three items related to the procedure of drug using and in all three items non-IDUs were less knowledgeable than IDUs. This difference is understandable, as non-IDUs might be expected to have less interest in drug using procedures and therefore not necessarily know details of this procedure. This suggests that inmates should not be regarded as a homogeneous entity in relation to HIV/AIDS knowledge. With regard to such topics, the two groups (IDUs and non-IDUs) definitely have separate information needs, thus different approaches, targeted to each group are required.

Inmates' self-perceived HIV/AIDS knowledge and their "real" knowledge, as expressed by their answers to all items were relatively compatible. Inmates, in total, thought of themselves as persons who knew a "medium" amount about AIDS. Answers on knowledge items revealed that although inmates knew the basic facts about AIDS, they were still ignorant or had misconceptions in significant areas. This means that inmates were aware of their AIDS knowledge status. They neither overestimated nor underestimated themselves. The above pattern of knowledge is further confirmed by the "correct knowledge" index. IDUs seem to know more regarding the methods of preventing HIV transmission, perhaps because they perceive themselves at enhanced risk for infection by HIV. Chliaoutakis *et al.* (1993) reported a similar result in their study of the general population: respondents in their study identified IDUs as one of the main groups infected by AIDS. However, this explanation requires further exploration, as it does not correspond to the epidemiological pattern of AIDS in Greece. According to that pattern, the percentage of AIDS cases attributed to injecting drug use is very low. From the cumulative HIV infected adults (including AIDS cases), reported in Greece to 30 June 2000 (total: 5,120), 2,062 cases (40.3%) were attributed to homosexual contact, while only 172 cases (3.4%) were attributed to injecting drug use (Hellenic Centre for Infectious Diseases Control, 2000).

The present study identified that specific demographic variables and beliefs were the most significant correlates of inmates' knowledge. More specifically, younger and more educated inmates, those being more tolerant of interacting with people with HIV/AIDS, those concerned less about AIDS inside prison and those perceiving more benefits and more costs associated with condom use were significantly more prone to possess higher levels of correct HIV/AIDS knowledge. Regarding the demographic correlates, these findings confirm a consistent positive association between age and educational status and levels of HIV/AIDS related knowledge, found in early research in the Greek general population (Agrafiotis *et al.*, 1991; Gnardellis and Agrafiotis, 1992; Chliaoutakis *et al.*, 1993), albeit not found in previous research among incarcerated populations (Power *et al.*, 1996). Being young and more educated, an inmate is capable to take advantage of any available opportunity for education, both outside and inside prison. Nevertheless, it seems that HIV/AIDS related knowledge has been obtained outside prison, as in Greek prisons the relevant material is scarce. Potential future interventions need to target older and less educated inmates and take into account their abilities to incorporate the relevant information provided.

The more tolerant towards interacting with people with HIV/AIDS an inmate was, the higher the level of his HIV/AIDS knowledge he had. This association confirms a similar previous finding among Greek general population (Chliaoutakis *et al.*, 1993). It reflects the fact that inmates are able to realistically estimate that interacting with people with AIDS at schools, working places, restaurants and at a social level (i.e. friendship) has no danger in relation to HIV transmission. Additionally, inmates who were less concerned about AIDS inside prison and those who perceived more benefits from using condoms as a means of preventing AIDS were also more knowledgeable. It seems that their increased levels of knowledge reduced their anxiety within prison, at least at the level of the possibility of getting AIDS behind bars. At the same time, inmates seem to put HIV prevention in its real

dimensions, as the consistent use of condoms is in fact the most effective way of preventing AIDS, given the active involvement in sexual contacts.

A seemingly paradoxical finding was that the greater the annoyance inmates perceived from using a condom (cost), the more knowledgeable on AIDS issues they were. This may reflect the fact that use of condoms constitutes a rather complicated act, in the sense that its practice (or not) is fundamentally interactive in nature, it has high emotional and arousal content, thus requiring social skills, while at the same time it may be affected by other more powerful psychosocial reasons (i.e. negotiation with the partner, specific representations, e.t.c.) (Ingham and van Zessen, 1997; Buunk *et al.*, 1998) rather than a purely cognitive procedure (i.e. "it reduces the danger of AIDS). From this perspective, it seems reasonable to assume that a person (an inmate) may rationally know that a condom could protect him from AIDS, but at the same time to perceive that a condom may reduce the pleasure of making love. Indeed, this pattern has been identified by the relevant Greek research on the general population (Agrafiotis *et al.*, 1991; 1997).

Results of the present study revealed for the first time, that inmates in Greek prison were knowledgeable at least regarding the basic modes of HIV transmission and the basic methods of HIV protection. At the same time, Greek inmates showed significant gaps in their knowledge concerning certain details of modes of transmission and methods of protection, as well as gaps in their knowledge on risks of HIV transmission in prison environment. It seems that despite the limited interventions designed for prisoners, the relevant information is not incorporated in prisoners' cognition. Within the prison context there is a need for greater emphasis to be given to individualised interventions and techniques other than the single distribution of leaflets. Greek penal institutions, with their specific characteristics, and inmate populations need to be more receptive to these interventions, so that the identified educational gaps and misconceptions are rectified. Without improvements in HIV/AIDS knowledge it is likely that high risk modes of

behaviours will proliferate.

Summary

In this Chapter I presented data regarding Greek prisoners' knowledge of high-risk modes of HIV transmission, methods of preventing HIV transmission and risks of HIV transmission in the prison environment. A randomly selected sample of 242 inmates from the largest prison in Greece participated in the study. Inmates appeared highly knowledgeable regarding the basic high-risk modes of transmission via sexual route and the basic modes of reducing risk during sexual intercourse. Nevertheless, high levels of misconception regarding certain sexual practices were also apparent. Regarding injecting drug use, inmates showed alarmingly high levels of misconception. Significant gaps were apparent on inmates' knowledge of risk of HIV transmission in prison environment. There were no significant differences between IDUs and non-IDUs regarding their knowledge in all but three items. These items were related to procedural aspects of drug using where non-IDUs were less knowledgeable than IDUs. Inmates perceived themselves as knowing 'a medium' amount of information about AIDS. Specific demographic (e.g. age and educational level) and psychological (e.g. AIDS worry, beliefs about the benefits and costs from using condoms) characteristics of inmates were associated with their level of HIV/AIDS related knowledge. Younger and more educated inmates, those being more tolerant of interacting with people with HIV/AIDS, those concerned less about AIDS inside prison and those perceiving more benefits and more costs associated with condom use were significantly more likely to be more knowledgeable about HIV/AIDS. The pattern of knowledge emerged was that although inmates knew the basic facts about AIDS, they were still ignorant or had misconceptions in significant areas. Results were discussed in relation to similar patterns of knowledge and misconception in other European studies in prison populations and in Greek studies of the general population.

CHAPTER 8: Phase 2: Injecting drug use among Greek inmates prior to imprisonment, during incarceration and intention of drug use after release. Use of the Social Cognition Models

8.1 Introduction

There seems to be a close relationship between use of drugs and imprisonment (Dolan, 1997) and the relevant research has proved that injecting is by far the major risk factor for HIV and other blood-borne viruses transmission inside prisons rather than sexual risk (Bird and Gore, 2000). There are numerous studies addressing the prevalence of drug-related HIV-risk behaviours, both among IDUs at liberty and in prisons (i.e. see section 2.1 of Chapter 2, also, the books of Stimson *et al.* (Eds), 1998; Shewan and Davies (Eds.), 2000). Additionally, at least one study among inmates has investigated drug use behaviour "in a continuum", that is, prior to and during incarceration, and (intentions) after release (Power *et al.*, 1992a). Nevertheless, the vast majority of these studies, although detailed, well designed and well conducted, were purely descriptive and a-theoretical. Compared with these studies, very few studies have addressed the issue of drug-related HIV-risk behaviour from a theoretical perspective (Wilson *et al.*, 1990; Lux and Petosa, 1994; Falck *et al.*, 1995; Finnigan, 1995; Hawkins *et al.*, 1999; Conner and McMillan, 1999). Each of these studies has used only a single model in order to examine the associations of drug-related behaviour with the components of the theory, while two studies conducted in a prison setting (Wilson *et al.*, 1990; Lux and Petosa, 1994) have used samples of young offenders. Until now no theory-based study in the area of HIV/AIDS has been conducted among adult prisoners, using the components from multiple Social Cognition Models. The current study comes to rectify these gaps, by investigating -

from a theoretical perspective - the pattern of drug use in a sample of IDU inmates, prior to and during imprisonment, as well as their intentions to use drugs after their release.

The pattern of drug use within prison among Greek inmates at a national level (Phase 1) has been described in detail in Chapters 4 and 5 of this volume. Phase 1 was descriptive and a-theoretical. In this Chapter, I present data from Phase 2 of the study in Greek prisons, which was conducted in only one correctional institution. During this phase, I asked inmates detailed questions regarding their involvement with drug use, as well as the precautions taken, before their incarceration, within prison and (intentions) after release. Then I tried to identify potential significant predictors of drug use related behaviours, among a number of demographic, penal, psychosocial and theory-based variables.

8.2 Subjects and procedure

As mentioned in Chapter 6, in the second phase of the study among Greek inmates, a representative sample of male population of the judicial prison of Korydallos - the biggest in Greece - (N = 242) was invited and participated. After permission was granted, the selected inmates were seen in privacy and offered a body of questionnaires together with an open envelope. All inmates were previously informed about the overall procedure of the study, they were offered assurances of anonymity and confidentiality, while the voluntary character of participation was particularly stressed. Those who did not want to take part were free to do so. As the questionnaires required time to be completed, inmates were asked to take them to their cells, to fill them in, and return the sealed envelop with the questionnaires to the researcher on his next visit to the prison (in two days). The basic demographic and penal characteristics of the sample, as well as the methodology of the study are presented in detail in Chapter 6 (pp. 160).

8.3 Measures

8.3.1 Injecting behaviour and precautions

Detailed data of inmates' injecting behaviour and the relevant precautions, before incarceration, while in prison and intentions after release, were gathered by means a self-report questionnaire that was constructed for the purposed of the current study. The questionnaire was based on previous similar research among Scottish inmates (Power *et al.*, 1992a). In addition, inmates were asked for the calendar year when they first time injected, whether first time of injection happened inside or outside prison and whether they were still injecting. They were also asked when had they last injected and whether this had happened inside or outside prison. The same questions applied for sharing behaviour. Questions were then asked for precautionary measures taken before incarceration and inside prison. Specific options were offered to inmates to choose: "*Used sterilised works*", "*Used new syringes*", "*Reduced sharing works*", "*Stopped sharing works*", "*Stopped using drugs*" (YES – NO – Not Applicable). Finally, precautionary measures intended to be taken when released were offered as options for inmates: "*Reduce sharing works*", "*Use new syringes/needles*", "*Use sterilised works*" (Definitely YES – Definitely NO – Not Applicable).

Also used in the analyses presented in this sections are some scales (i.e. the perceived risk and concern scale, the HBM scale, the MHLC scale and the Health Value scale), which were described in detail in the "Measures" section (§ 6.3.1, 6.3.2, 6.3.3, 6.3.4, 6.3.5) of Chapter 6. Especially for the HBM scale, I have to mention here that the 6-items Benefits and Costs Sub-scale included four items regarding drug use behaviours (they were more relevant to IDUs) and two items regarding sexual behaviour (they potentially were relevant to all subjects). As a result, for non-IDUs I used only the benefits

and costs items referring to sexual behaviour, while for IDUs I used all the six benefits and costs items.

8.3.2 The Theory of Planned Behaviour Scale

The central components of the TPB were assessed by a self-reported questionnaire. The behaviour in question was **avoiding drug use within prison**. Only IDUs inmates completed this questionnaire. No measure of *actual behaviour* was used, yet one question of the drug use section (*"Are you still injecting"*) could be used as an index of the behaviour in question. The construction of the TPB scale was based on directions provided for the development of adequate measures of TPB components (Conner and Sparks, 1996), a previous paper in the area of healthy food choices and dietary change (Cannon, 1992, c.f. Conner and Sparks, 1996), as well as on papers reported on a TPB review (Ajzen, 1991).

Behavioural intention. Three measures were used. They represented intention (*"As long as I am still going to be in prison, I intend to avoid drug use"*) (1 = "Definitely No" - 7 = "Definitely Yes"), desire (*"I would like to avoid drug use, as long as I am still going to be in prison"*) (1 = "Strongly disagree" - 7 = "Strongly agree") and expectation (*"How likely do you think it is to be able to avoid drug use, as long as you are going to be in prison?"*) (1 = "Unlikely" - 7 = "Likely"). The scores on these items were then summed to give an overall intention score (scale range 3-21). Higher scores represented higher IDUs intention to avoid drug use while in prison. The reliability estimate (Cronbach's alpha) for these items was .76.

Attitude. A global measure of attitude was obtained. This component was measured by the sum of scoring on five items (scale range 5-35): *"My using drugs while in prison is..."* (bad - good, beneficial - harmful, unpleasant - pleasant, enjoyable - torturous, foolish -

wise). Lower score represented less favourable attitude to drug use while in prison. Cronbach's alpha for these items was .75.

Behavioural beliefs. Three beliefs regarding the consequences of avoiding drug use while in prison were assessed: (i) "Avoiding drug use while in prison would make me feel healthier". (ii) "Avoiding drug use while in prison would help me to cope easier with life in prison". (iii) "Avoiding drug use while in prison would make me feel «high»" (1 = "Unlikely" – 7 = "Likely"). During the analyses, for every item, the scores obtained initially in a unipolar seven point scale (from 1 to 7) were transformed to scores on a bipolar scale ranging from -3 to +3, following Ajzen's (1991) arguments. This type of scoring captures the psychology of double negatives, that is, a belief that behaviour will **not** result in a negative outcome contributes positively to the person's attitude (Montaño *et al.*, 1997). Cronbach's alpha for these items was .70. Inmates were then asked to evaluate each outcome identified in the behavioural belief questions. Questions had the form: "Being healthy is...", "My easy coping with life in prison is...", "Feeling high is..." and the response scale was of the type (Bad-good, Useful-harmful, Unpleasant-pleasant). Evaluation scales were similarly transformed from unipolar (1 to 7) to bipolar (-3 to +3). Cronbach's alpha for these evaluation items was .74. Scoring procedure was as follows: Firstly, for each of the **evaluation** questions a mean score was produced (ranged from -3 to +3). Then, each behavioural belief score was multiplied by the corresponding outcome evaluation mean score and these products were summed (scale range -27 to +27). The sum constituted the belief-based measure of attitude (Ajzen, 1991) and was moderately correlated with the global measure of attitude described above ($r = -.38$; $p < .001$). The negative correlation reflects the contrary meaning between the global measure of attitude, which was referred to drug use, and the belief-based measure of attitude, which was referred to avoidance of drug use.

Subjective norm (SN). A global measure of this component was obtained by asking IDUs to rate the extent to which two groups of significant others (friends/relatives, other IDUs inmates) thought they should use drugs while in prisons. The selection of these two particular groups arose intuitively, without previous work with inmates [i.e. interviews (Montaño *et al.*, 1997)], in order to identify that these groups were really the referents for IDUs. The questions had the following format: (i) "*People who are important to me (i.e. friends, relatives) think I: Should not – Should use drugs while in prison*". (ii) "*Other inmates injectors who are important to me think I: Should not – Should use drugs while in prison*". A summed score was calculated (scale range 2-14). Higher scores indicated higher perceived social pressure for drug use while in prison. Cronbach's alpha for these two items was low (.28), perhaps due to the small number of items.

Normative beliefs and motivation to comply. A belief-based measure of subjective norms was also obtained by asking IDUs to rate the extent to which the same two groups of referents would approve their drug use while in prison. Questions were asked in the following format. (i) "*People who are important to me (i.e. friends, relatives) would approve – would disapprove my using drugs while in prison*". (ii) "*Other inmates injectors who are important to me would approve – would disapprove my using drugs while in prison*". During the analysis, for every item, the scores obtained in the unipolar seven point scale (from 1 to 7) were transformed to scores on a bipolar scale ranging from -3 to +3, following Ajzen's (1991) instructions. IDUs were then asked two questions regarding their motivation to comply with significant others' opinion. Questions were as follows: (i) "*With regard to your drug use while in prison, how much do you want to do what your friends/relatives think you should?*" (ii) "*With regard to your drug use while in prison, how much do you want to do what inmates injectors think you should?*" (1 = "Not at all" – 7 = "Very much"). Higher scores represented higher motivation to comply. Cronbach's alpha for the two comply items was .41. A belief-based measure of subjective norm for each IDU was

subsequently calculated by multiplying normative belief summed score by his motivation to comply score and adding the two products (range -42 to +42). The global and the belief-based measures of subjective norm were correlated rather well ($r = .54, p < .001$).

Perceived Behavioural Control (PBC). This component was measured using the following four items: (i) "Whether I do or do not use drugs while in prison is entirely up to me". (ii) "I don't know if I can avoid using drugs while in prison". (iii) "I am confident that I am not going to use drugs while in prison from now on" (1 = "Strongly disagree" - 7 = "Strongly agree") (iv) "For me to avoid drug use while in prison is..." (1 = "Difficult" - 7 = "Easy"). The alpha coefficient for these four items was .71, and the items were subsequently summed in order to form a measure for PBC (scale range 4 to 28). A higher PBC score represented higher control over avoidance of drug use while in prison. No measures for control beliefs and perceived power were used.

All measures described in this section are presented in APPENDIX 3.

8.4 Results

From the 242 inmates who participated in the second phase of the study, 103 (42.6%) reported that they had sometime in their lives injected drugs. The following sections apply to this sub-group of IDUs inmates.

8.4.1 Prevalence of injecting drug use among inmates

The pattern of injecting drug use and sharing behaviour is presented in Table 8.1.

Table 8.1 Pattern of drug use among Greek IDUs inmates (N = 103)

Question	N	(%)
Year of first injection		
Before 1970	2	(2.0)
1971 - 1975	7	(7.1)
1976 - 1980	26	(26.3)
1981 - 1985	22	(22.2)
1986- 1990	21	(21.2)
1991 - 1995	18	(18.2)
After 1995	3	(3.0)
Place of first injection		
In prison	12	(11.7)
Out of prison	91	(88.3)
Still inject?		
YES	70	(68.0)
NO	26	(25.2)
Not answer	7	(6.8)
Time of the last injection*		
0 - 7 days ago	51	(75.0)
8 - 29 days ago	3	(4.4)
1 - 4 months ago	8	(11.8)
5 - 11 months ago	4	(5.9)
1 - 2 years ago	1	(1.5)
More than 2 years ago	1	(1.5)
Place of last injection*		
In prison	63	(91.3)
Out of prison	6	(8.7)
Year of first sharing		
Before 1970	2	(2.1)
1971 - 1975	1	(1.0)
1976 - 1980	11	(11.5)
1981 - 1985	13	(13.5)
1986- 1990	15	(15.6)
1991 - 1995	13	(13.5)
After 1996	19	(19.8)
Not applicable	22	(22.9)
Place of first sharing**		
In prison	45	(58.4)
Out of prison	32	(41.6)

* Only for those who still inject (n=70) ** Only for sharers (n = 81)

Table 8.1 (cont.) Pattern of drug use among Greek IDUs inmates (N=103)

Question	N	(%)
Still share? **		
YES	54	(68.4)
NO	25	(31.6)
Time of the last sharing ***		
0 – 7 days	45	(83.3)
8 - 29 days	4	(7.4)
1 – 4 months	2	(3.7)
5 – 11 months	2	(3.7)
1 – 2 years	-	-
More than 2 years	1	(1.9)
Place of last sharing ***		
In prison	52	(96.3)
Out of prison	2	(3.7)

** Only for sharers (n = 81) *** Only for those still sharing (n = 54)

As can be seen in Table 8.1, the vast majority of IDUs (87.9%) had started their injecting behaviour sometime between 1976 and 1995. Only 3 IDUs (3%) were new users – they had started the usage after 1995 - while an even smaller percentage (2%) were old users, they had started the usage before 1970. The vast majority of the group (88.3%) stated that they had injected for the first time in a place outside prison, while a significant majority, 70 out of 103 IDUs (68%) were still active users (they continued to inject until the period of the study). 51 IDUs from this latter group (75%) stated that they had their last injection within the previous week. 63 active IDUs (91.3%) stated that their last injection took place within prison.

A similar pattern as with the first year of injecting applied to the sharing behaviour. A significant majority of IDUs (52/96, 54.1%) stated that they had started sharing injecting equipment sometime between 1976 and 1995. At this point I combine the figures regarding the first year of injection and the first year of sharing. I notice that from those who start injecting within a five years period (i.e. 1976-1980), almost 40% started sharing at the

same period. That is, a significant proportion of IDUs at the start of their injecting career, also commence sharing injecting equipment.

Nearly 20% of IDUs were new sharers, they had started sharing after 1996, while a very small percentage (2.1%) were old sharers, they had started sharing before 1970. Finally, a fifth of the IDUs (22.9%) reported that they had never shared. The majority of sharer IDUs (45/77, 58.4%), who provided the information, reported that they shared for their first time within prison, while a significant majority (54/79, 68.4%) stated that they were still sharing at the period of the study. From those who still shared, the vast majority (45/54, 83.3%) stated that they had shared within the previous week. 52 out of the 54 "active" sharers (96.3%) stated that their last sharing practice took place within prison.

8.4.2 Precautionary measures adopted by IDUs, prior to incarceration, while in prison and (intentions) after release

All IDUs inmates were asked whether they had taken any precautions regarding their injecting behaviour, in order to reduce the risk for HIV infection. Inmates' responses to a number of available options on precautions, before imprisonment, during imprisonment and that expected after release are presented in Tables 8.2a and 8.2b.

Table 8.2a Precautions related to drug use taken by still active IDUs inmates (n=70) before imprisonment and during imprisonment

Precautions	Before Imprisonment		During imprisonment	
	YES n (%)	NO n (%)	YES n (%)	NO n (%)
Use sterilized works	38 (55.1)	31 (44.9)	32 (47.1)	36 (52.9)
Use new syringes	60 (87.0)	9 (13.0)	7 (10.3)	61 (89.7)
Reduced sharing	40 (59.7)	27 (40.3)	25 (37.3)	42 (62.7)
Stop sharing	38 (56.7)	29 (43.3)	14 (20.9)	53 (79.1)
Stop using drugs	7 (10.1)	62 (89.9)	11 (15.7)	59 (84.3)

Table 8.2b Precautions related to drug use expected to be taken by active IDUs inmates (n=70) after their release

Precautions	After release				
	Definitely NO n (%)	Very unlikely n (%)	Unsure n (%)	Very likely n (%)	Definitely YES n (%)
Reduced sharing	3 (4.8)	1 (1.6)	2 (3.2)	2 (3.2)	54 (87.1)
Use new syringes	2 (3.2)	1 (1.4)	1 (1.4)	---	59 (93.7)
Use sterilized works	10 (16.9)	2 (3.4)	1 (1.4)	3 (5.1)	43 (72.9)

As can be seen in Table 8.2a, prior to their imprisonment, the vast majority of IDUs (87%) preferred to use new syringes in order to reduce the possibilities of HIV infection. A significant majority (56.7%) stated that they stopped sharing, while sterilisation of injecting works was a preference for the 55.1% of the users. When imprisoned, the pattern of protection changes. New syringes are used by only 10.3% of IDUs, but 79% stated that they have not stopped sharing. Additionally, sterilised works are used by less than half (47.1%) of active IDUs. With regard to their precautionary measures after release (Table 8.2b), the overwhelming majority of IDUs (93.7%) stated they would definitely use new syringes, while significant percentages of IDUs stated that they are going to reduce sharing (87.1%) or use sterilised works (72.9%). Nevertheless, it is important to note that a total of 25% of IDUs stated that they would never use any of the available precautions after their release.

8.4.3 HIV testing and drug use

It was beyond the scope of this study to explore the HIV seropositivity status among Greek inmates. However, at the Introduction section of the questionnaire all inmates were asked whether they had taken an HIV blood test outside prison, as well as what was the result of this test. 59.4% of IDUs and 46.3% of non-IDUs had taken an HIV blood test when they were outside prison. This is a different pattern of that reported in Chapter 4, with regard to the national sample of Greek inmates. In the national sample, the

percentage of IDU inmates who had taken an HIV blood test was 42,9%, which is lower, compared with the corresponding percentage in the current sample. Similarly, the percentage of non-IDU inmates in the national sample, who had taken an HIV blood test was 25.9%, which again is lower, compared with the corresponding percentage in the current sample. In the current sample, from those who had taken the test, the vast majority of both groups (more than 90%) had received a negative result. A total of 3 inmates (2.5%) stated that the result of the test was positive. One of them was an IDU and 2 were non-IDUs.

8.4.4 Predictors of drug use related precautions

In order to identify potential independent predictors of drug use-related precautionary measures adopted by those IDUs who continue to inject while in prison (N = 70), as well as IDU inmates' intention to take drug-related precautions when released, a number of separate regression models were used. Due to the small number of inmates the analyses were restricted to a small number of independent variables.

8.4.4.1 Predictors of drug use related precautions taken while in prison

As described in the above sections, inmates were presented with a number of options – potential precautionary measures – and asked to indicate whether or not had adopted any of these measures while in prison. For the purposes of the regression analyses the reported (actual) “Stop sharing while in prison” option was selected to be the dependent variable on the grounds that this behaviour represented the safest practice for an IDU who injected while in prison. This variable was expressed in a dichotomous way (0 = "no", 1 = "yes"). Then, it was regressed on a number of selected demographic, penal and theory-based variables. More specifically, the following variables were used as independent predictors: 1) *Demographic*: age (in years); 2) *Penal*: current time in prison (in

months). 3) *Risk*: Perceived personal AIDS risk inside prison (1 = "Not at all" – 5 = "A great deal"). 4) *HBM*: AIDS severity (score, deriving from the scale: 1 = "Strongly Disagree - 5 = "Strongly Agree"; higher scores represent higher sense of AIDS severity); 5) *Past precautionary behaviour*: Stop sharing before incarceration (0 = "no", 1 = "yes"). The model was applied for all injectors who reported that they still injected while in prison (N=70). In the Table 8.3, below, are presented the characteristics of those who reported that they have stopped sharing versus those who reported that they haven't stopped sharing while in prison, as a means of protection against AIDS.

Table 8.3: Injectors' reported "stop sharing while in prison" as a means of protection against AIDS (N = 70).

<i>Variables</i>	Non-sharers (N=13)		Sharers (N=51)	
	Mean	S.D.	mean	S.D.
Age	34.3	6.7	35.1	8.1
Time in prison	17.1	19.7	12.7	12.8
HBM				
Severity	3.8	.54	3.8	.90
TPB				
Perceived behavioural control	20.07	6.1	14.00	6.4
	YES		NO	
	%		%	
AIDS concern outside				
Not at all	-		100.0	
Little	33.3		66.7	
Medium	-		100.0	
A lot	20.0		80.0	
A great deal	21.2		78.8	

Table 8.3 (cont.) Injectors' reported "stop sharing while in prison" as a means of protection against AIDS (N = 70).

Variables	Non-sharers (N=13)		Sharers (N=51)	
		YES		NO
		%		%
HIV perceived risk inside				
	Not at all	20.0		80.0
	Little	-		100.0
	Medium	27.3		72.7
	A lot	41.2		58.8
	A great deal	11.5		88.5
Stop sharing before incarceration				
	YES	30.6		69.4
	NO	10.3		89.7

As can be seen in the above Table, there was no difference between sharers and non-sharers with regard to age, current length of time imprisoned, their perceptions of AIDS severity, their concern about AIDS outside prison and their perceptions of risk for HIV inside prison. However, compared to sharers, non-sharers perceived themselves as having significantly more control over avoiding drug use while in prison ($t(21) = -3.2$; $p < .005$), while significantly fewer of non-sharers than sharers had stopped sharing before imprisonment as a means of protecting themselves from AIDS ($\chi^2 = 3.8$; $df = 1$; $p < .05$).

Nevertheless, the data presented in Table 8.3 were inherently confounded and therefore not directly interpretable. To assess the independent predictors of IDU inmates' reported "stop sharing" behaviour inside prison, while controlling for mutual confounding, we calculated the odds ratios for each of the above independent variables in a logistic regression model. The procedure involved only one step in which all independent variables were entered simultaneously into the model. All p -values reported in statistical procedure

are two-tailed. The logistic regression-derived odd ratios and the 95% Confidence Intervals are shown in Table 8.4.

Table 8.4: Logistic regression-derived odd ratios and 95% CI of reported "stop sharing" behaviour inside prison on past behaviour and selected demographic, penal and theory-based variables

Variables	Odds ratio	95% CI	P
Age (years)	0.95	0.86-1.05	0.38
Time in prison (months)	1.02	0.97-1.07	0.40
Severity	1.47	0.45-4.83	0.51
AIDS concern outside	1.12	0.57-2.19	0.72
HIV perceived risk inside	1.00	0.46-2.15	0.99
Perceived behavioural control	1.17	1.02-1.34	0.01
Stop sharing before incarceration			
Yes	5.70	1.02-35.20	0.06
No	<i>Baseline</i>		

As can be seen in Table 8.4, only the measure referring to perceived behavioural control and marginally the measure referring to past behaviour (stopped sharing before incarceration) were the most significant predictors of IDU inmates' reported "stop sharing" behaviour inside prison. More specifically, inmates who believed that they had control over avoiding injecting drugs while in prison were more prone to stop sharing by 17% [OR=1.17 (95% CI: 1.02-1.34)]. Additionally, although only marginally significant, those inmates who reported having stopped sharing equipment prior to their incarceration were at about 6 times more likely to adopt the same practice while in prison [OR=5.70 (95% CI: 1.02-35.20)]. When any additional variable was included in the model, the results remained unchanged. Perceived behavioural control still remained the most significant predictor of stopping sharing inside as a means of protection against AIDS.

8.4.4.2 Predictors of IDUs' intentions to take drug use related precautions after their release

As with precautions inside prison, inmates were also presented with a number of options – potential precautionary measures – and asked to indicate whether or not they intended to practice any of these measures when they released. A second regression model was again used, in order to identify predictors of IDUs reported intentions to adopt specific precautions regarding drug use after their release. Due to the small number of inmates included, the analysis was restricted to a small number of independent variables. For the purposes of the second logistic regression analysis the “Use new syringes” option was selected to be the dependent variable on the grounds that this behaviour represented the safest practice for an IDU at liberty. This variable was expressed in a dichotomous way (0 = “no”, 1 = “yes”). Then, it was regressed on a number of selected demographic, penal and theory-based variables. More specifically, the following variables were used as independent predictors: 1) *Demographic*: age (in years); 2) *Penal*: current time in prison (in months). 3) *HBM*: perceived personal susceptibility to AIDS; AIDS severity (scores, deriving from the scale: 1 = “Strongly Disagree - 5 = “Strongly Agree”; higher scores represent higher perceived susceptibility and higher sense of AIDS severity). 4) *Health value* (the Lau's *et al.*, 1986 scale; higher scores indicating higher value attached to health). 5) *Past precautionary behaviour*: Stop sharing before incarceration (0 = “no”, 1 = “yes”). The model was applied for all IDUs (N = 103). In the Table 8.5, below, are presented the characteristics of those who reported use of new syringes when released and those who did not report use of new syringes, as a means of protection against AIDS.

Table 8.5 Injectors' reported intention to use new syringes after their release, as a means of protection against AIDS (N = 103).

Variables	Intend to use new syringes (N = 73)		Do not intend to use new syringes (N = 13)	
	Mean	S.D.	mean	S.D.
Age	34.2	7.6	36.4	8.2
Time in prison	13.0	14.9	24.3	15.9
HBM				
Susceptibility	3.6	.97	2.5	1.1
Severity	3.7	.84	3.6	1.0
Health value	20.6	5.2	17.1	7.0
Stop sharing before incarceration				
YES	88.9		11.1	
NO	79.5		20.5	

As can be seen in the above Table, there was no difference between those who intended to use new syringes when released and those who did not, with regard to age, their perceptions of AIDS severity and their reports on stop sharing before imprisonment as a means of protecting themselves from AIDS. However, those who intended to use new syringes were currently in prison for a significantly less time ($t(82) = 2.4$; $p < .05$); they perceived themselves as significantly more susceptible to AIDS ($t(84) = -3.5$; $p < .005$); and they valued their health significantly more ($t(83) = -2.1$; $p < .05$).

Nevertheless, the data presented in Table 8.5 were inherently confounded and therefore not directly interpretable. To assess the independent predictors of intention to use new syringes after release, while controlling for mutual confounding, the odds ratios for each of the above independent variables was calculated in a logistic regression model.

The procedure involved only one step in which all independent variables were entered simultaneously into the model. All *p*-values reported in statistical procedure are two-tailed. The logistic regression-derived odd ratios and the 95% Confidence Intervals are shown in Table 8.6.

Table 8.6: Logistic regression-derived odd ratios and 95% CI of reported intention to use new syringes when released on past behaviour and selected demographic, penal and theory-based variables

Variables	Odds ratio	95% CI	p
Age (years)	1.06	0.93-1.21	0.34
Time in prison (months)	0.94	0.89-0.98	0.01
Susceptibility	5.23	1.89-14.48	0.0014
Severity	0.97	0.39-2.37	0.94
Health Value	1.26	1.06-1.50	0.0071
Stop sharing before incarceration			
Yes	6.64	1.06-41.48	0.04
No	<i>Baseline</i>		

As can be seen in Table 8.6, susceptibility, value placed on health, total time in prison and the variable referring to past behaviour (stopped sharing before incarceration) were the most significant predictors of inmates' reported intention to use new syringes when released. More specifically, inmates who thought themselves as susceptible to AIDS were 5 times more prone to use new syringes [OR=5.23 (95% CI: 1.89-14.48)]. Additionally, for every increasing unit in the Health Value scale, the possibility of using new syringes when released increased by more than 100% [OR=1.26 (95% CI: 1.06-1.50)]. Furthermore, for every extra month in prison, the possibility of using new syringes after release decreased by about 6% [OR=0.94 (95% CI: 0.89-0.98)]. Finally, those inmates who reported that they had stopped sharing equipment prior to their incarceration were at

about 7 times more likely to use new syringes when released from prison [OR=6.64 (95% CI: 1.06-41.48)].

8.4.5 Predictors of inmates' intention to avoid drug use while in prison. The utility of the Theory of Planned Behaviour (TPB)

8.4.5.1 TPB scale Descriptives and Intercorrelations

As mentioned in § 8.3.4 of the current Chapter, the TPB measure was completed only by IDU inmates and "intention to avoid drug use while in prison" was defined as the criterion variable. In Table 8.7 are presented the descriptive data on the key variables of the TPB measure.

Table 8.7 Mean scores and Standard Deviations on the variables of the Theory of Planned Behaviour for IDUs inmates (n = 103)

Variable	Items	Mean	(SD)	Range
<i>Intention</i>	3	14.07	3.21	3-21
<i>Attitudes</i>	5	13.29	8.34	5-35
<i>Subjective norm</i>	2	4.55	3.05	2-14
<i>Perceived behavioural Control</i>	4	16.98	7.18	4-28
<i>Behavioural beliefs x Evaluation</i>		16.95	12.99	-27 - +27
<i>Normative beliefs x Motivation to comply</i>		-13.38	15.06	-41 - +42

As can be seen on the above Table, IDU inmates reported high enough intention to avoid drug use while in prison and less favourable attitude towards drug use while in

prison. Additionally, they perceived significant others as being on the opinion they shouldn't inject while in prison and they thought themselves as having enough control to avoid drug use while in prison. Finally, they expressed rather positive beliefs regarding the avoidance of drug use while in prison weighted by outcome expectancy, and perceptions of significant others' low approval of drug use while in prison, weighted by their motivation to comply.

The correlations among the TPB components were then calculated. These are presented in Table 8.8.

Table 8.8 Correlations among TPB components for IDU inmates (N = 103)

	ATT	SN	PBC	BE	NB
Behavioural Intention (BI)	-.318**	-.005	.591**	.360**	-.177
Attitudes (ATT)		.348**	.007	-.381**	.471**
Subjective norm (SN)			.064	-.211*	.529**
Perceived behavioural control (PBC)				.186	.064
Beliefs x Evaluation (BE)					-.211*
Normative beliefs x motivation to comply (NB)					

As can be seen in Table 8.8, the strongest correlation was between behavioural intention to avoid drug use in prison and the inmates' perceived control over this behaviour. Global and belief-based measures of attitudes and subjective norm also correlated well. The negative indicator on attitudes correlation is because the global attitudes item referred to injection while in prison and not to avoidance of injection.

8.4.5.2 Predictors of inmates' intention to avoid drug use while in prison

Based on the above correlations, a linear regression model of injectors' behavioural intention to avoid drug use while in prison on to their attitudes towards drug use while in prison, their subjective norm and their perceived behavioural control was computed. All predictors were entered to the model simultaneously. Results are presented in Table 8.9.

Table 8.9 Regression of behavioural intention to avoid drug use while in prison on attitudes, subjective norm and perceived behavioural control

	<i>R</i> ² (adjusted)	Beta
	.44	
Attitudes		-,319*
Subjective norm		-,012
Perceived behavioural control		,598*

* $p < 0.001$

As can be seen in Table 8.9, the three predictors accounted for 44% of the variance ($F(3, 96) = 27.6, p < 0.001$). Of the factors, attitudes towards injection while in prison and perceived behavioural control over not injecting in prison were independent predictors of injectors' intentions to avoid drug use while in prison. More specifically, those who held negative attitudes towards injecting in prison and those who perceived themselves as having more control over not injecting in prison were more likely to hold a strong intention to avoid injecting drugs while incarcerated.

8.4.6 Theory-based predictors of continuing injecting while in prison

A significant proportion of IDUs (68%) that participated in the current study reported that they continue injecting drugs while in prison. In order to identify the potential predictors of this behaviour, while controlling for mutual confounding, mainly among the components of the SCMs used in the present study, I calculated the odds ratios for each of selected theory-based variables in a logistic regression model. The "still inject" variable was defined as dependent. The variable was expressed in a dichotomous way (0 = "no", 1 = "yes"). Then, it was regressed on a number of selected demographic and theory-based variables. More specifically, the following variables were used as independent predictors:

- 1) *Demographic*: age (in years);
- 2) *HBM*: perceived personal susceptibility to AIDS; AIDS severity (scores, deriving from the scale: 1 = "Strongly Disagree" - 5 = "Strongly Agree"; higher scores represent higher perceived susceptibility and higher sense of AIDS severity).
- 3) *Health value* (the Lau's *et al.*, 1986 scale; higher scores indicating higher value attached to health).
- 4) *TPB*: inmates' behavioural intention to avoid drug injection while in prison; inmates' perceived behavioural control over not injecting while in prison (higher scores indicated higher intention and greater control).
- 5) The 18-item Multidimensional Health locus of Control (MHLC) scale (Wallston *et al.*, 1978) was used. Each of the three locus of control dimensions (internal, powerful others, chance) comprised six items measuring the strength of differing control beliefs, using a six-point Likert scale, ranging from 1 = "Strongly disagree" to 6 = "Strongly agree". Higher scores represented stronger beliefs on the role of each of the locus of control dimensions.
- 6) *Concern*: inmates' concern about general health and about AIDS concern inside prison (1 = "Not at all" - 5 = "A great deal", higher scores indicating greater concern). The procedure involved only one step in which all independent variables were entered simultaneously into the model. The model was applied for all IDUs (N = 103). All *p*-values reported in statistical procedure are two-

tailed. In the Table 8.10 are presented the characteristics of those IDUs who reported that continue injecting inside prison versus those who reported that they don't continue.

Table 8.10 IDU inmates' reported continuing injection inside prison (N = 103).

Variables	YES (N=70)		NO (N=26)	
	Mean	S.D.	mean	S.D.
Age	34.79	7.9	35.08	8.7
HBM				
Susceptibility	3.7	0.9	2.6	1.2
Severity	3.8	0.8	3.5	0.9
Health Value	20.4	5.4	19.4	6.3
MHLC				
Internal	27.5	6.6	27.6	6.7
Powerful others	26.8	6.7	24.9	6.9
Chance	21.1	7.3	17.8	8.3
TPB				
Intention	12.0	5.3	18.7	4.7
Perceived behavioural control	15.3	6.7	21.1	6.8
		YES		NO
		%		%
General health concern				
Not at all		50.0		50.0
Little		80.0		20.0
Medium		84.2		15.8
A lot		63.2		36.8
A great deal		74.5		25.5
AIDS concern inside				
Not at all		30.0		70.0
Little		92.3		7.7
Medium		71.4		28.6
A lot		69.6		30.4
A great deal		79.1		20.9

As shown in the Table 8.10, there was no difference between those who reported continuing injection inside prison and those who did not, with regard to age, their perceptions of AIDS severity, the value placed on health, all components of the HLC and their general health concern. However, compared to those who reported stopping injection inside, those who reported continuing injection inside prison perceived themselves as significantly more susceptible to AIDS ($t(94) = -4.8$; $p < .001$), they intended significantly less to avoid injecting while in prison ($t(94) = 5.6$; $p < .001$) and they perceived significantly less control over not injecting while in prison ($t(94) = 3.7$; $p < .001$). Finally, significantly more injectors who continued injecting in prison than those not continued concerned very much about AIDS inside prison ($\text{Chi}^2 = 12.7$; $\text{df} = 4$; $p < .05$).

The logistic regression-derived odd ratios of continuing injection inside prison, for each of selected demographic and theory-based variables, as well as the 95% Confidence Intervals are shown in Table 8.11.

Table 8.11 Logistic regression-derived odd ratios and 95% CI of reported continuing injecting while in prison on selected demographic and theory-based variables (N = 103)

Variables	Odds ratio	95% CI	p
Age (years)	1.01	0.92-1.10	0.80
General health concern	1.48	0.71-3.05	0.28
AIDS concern inside	0.60	0.30-1.21	0.15
Susceptibility	3.69	1.63-8.37	0.0017
Severity	1.18	0.42-3.27	0.74
IHLC	1.04	0.91-1.19	0.48
POHLC	0.98	0.86-1.11	0.78
CHHLC	1.02	0.92-1.14	0.42
HV	1.20	1.04-1.40	0.01
BI	0.71	0.56-0.90	0.0063
PBC	0.96	0.85-1.09	0.62

As can be seen in Table 8.11, inmates' perceived susceptibility, their behavioural intention to avoid drug injection in prison and the value placed on health were shown to be the most significant predictors of their reported continuing injecting while in prison, with susceptibility being the most significant predictor. More specifically, those IDUs who felt more susceptible to AIDS were more than 3 times likely to continue injecting while in prison, after controlling for effects of the other variables [OR=3.69, 95%CI (1.63-8.37)]. Additionally, IDUs who expressed lower intention to avoid drug injection in prison were more prone to continue injecting inside by about 30% [OR=0.71, 95%CI (0.56-0.90)]. Finally, those injectors placing higher value to their health were more than once more prone to continue injecting drugs while in prison [OR=1.20, 95%CI (1.04-1.40)].

When I tried to repeat the analysis only for those with high health value (Lau *et al.* 1986; Wallston, 1992), this was not feasible due to the small sample size. Then I chose an indirect measure of valuing health, the item referring to general health concern (≥ 4 , $n = 70$), as a selection basis. The results are presented in the Table 8.12.

Table 8.12 Logistic regression-derived odd ratios and 95% CI of reported continuing injecting while in prison on selected demographic and theory-based variables, among those greatly concerned for their general health

Variables	Odds ratio	95% CI	p
Age (years)	0.98	0.90-1.06	0.71
AIDS concern inside	0.49	0.22-1.11	0.08
Susceptibility	3.50	1.49-8.19	0.0039
Severity	0.79	0.26-2.40	0.68
IHLC	1.02	0.89-1.16	0.71
POHLC	0.94	0.81-1.08	0.41
CHHLC	1.03	0.92-1.15	0.52
BI	0.83	0.68-1.02	0.08
PBC	1.00	0.88-1.13	0.96

As can be seen in Table 8.12, for those who are greatly concerned for their general health, the susceptibility component remained the only significant predictor of inmates continuing injecting while in prison, while the effect of behavioural intention variable was diminished. More specifically, those IDUs who were greatly concerned for their general health and felt more susceptible to AIDS were more than 3 times likely to continue injecting while in prison, after controlling for effects of the other variables [OR=3.50, 95%CI (1.49-8.19)].

8.5 Discussion

In the first phase of this nation-wide study in Greek prisons (Chapters 4 and 5) it was shown that drug use constituted a significant characteristic of Greek prison life. Results presented in this section confirmed that Greek inmates had start their drug use career before their current incarceration. The pattern that emerged was that most IDU inmates were involved with drugs for over twenty years and that the majority of them continued injecting up until the time this study took place. This pattern seems to be in line with the estimations that in Greece, it was not until the late 1970s that illicit drug use expanded to epidemic dimensions from the previous sporadic use (Kokkevi *et al.*, 2000). Additionally, the results indicate that a significant minority of IDUs (40%) started their drug use career in the most risky way, by sharing. This finding confirms previous reports (Friedman *et al.*, 1998), which estimates the prevalence of injection with used syringes among new injectors at the same levels (43%, for the low seroprevalence cities, among which was Athens).

It appears that Greek prisons act as a modifier of drug using behaviour. Indeed, while the vast majority of IDUs (88%) had started their drug using careers outside prison, a

smaller percentage of them (61%) had their most recent injection while in prison. On the other hand, the vast majority of the active injectors in prison in our sample (54/70, 77%) reported that they were sharing while in prison. This is a consistent finding over the surveys worldwide (Power *et al.*, 1992a; Shewan *et al.*, 1994; Dolan, 1997; Malliori *et al.*, 1998a; Jürgens, 2000), indicating that although an overall reduction in injecting while in prison takes place compared with outside (Jürgens, 2000), those who continue injecting while in prison seem to take more risks (Jacob and Stöver, 2000), by sharing injecting equipment more frequently (Shewan *et al.*, 1994). The above is further confirmed by our finding that the majority of inmates indicated prison as the place in which they started sharing.

When inmates were asked for precautions taken prior to incarceration, the vast majority of them reported that they used new syringes. This was also the precaution of preference for the vast majority of inmates, when released. In Greece, everyone (and IDUs of course) can easily buy new syringes from the pharmacies or drug stores without prescription, given that they can afford the relatively low cost. In other words, outside, IDUs have unlimited opportunities to adopt a safe drug use-related practice if they want to. On the other hand, during incarceration, the precaution of preference was the sterilisation of the injecting equipment and the reduction of sharing. In Greek prisons, there is not an officially approved policy on bleach provision, like in Australia (Dolan and Crofts, 2000), nor a policy for providing clean syringes, either free, or on exchange. Nevertheless, anecdotal reports from inmates and personal communication of the researcher with the person in charge in the Greek Ministry of Justice indicated that inmates might have a limited access to some kind of disinfectants (spirit, iodine) on request from prison pharmacy. Nevertheless, it is open to discussion whether these methods and the degree they are used by inmates could really protect them from HIV and other transmissible diseases, like Hepatitis. Indeed, despite the very low HIV prevalence rate (0.19%), very

high prevalence rates of Hepatitis B (62.7%) and hepatitis C (80.6%) have been reported in Greek prisons (Malliori *et al.*, 1998a). On the other hand, reduction of sharing reported by 37.3% of IDUs seems to be a more realistic approach of the prevention issue in prisons. Given this situation in Greek prisons, there is an immediate need to reconsider our drug-related policy within penal institutions. It is rather unrealistic to have drug free prisons. Greek inmates in the current sample have already expressed their positive attitudes towards the provision of free syringes and needles to all IDUs. It is up to the prisons' health and administration authorities to consider a realistic harm reduction policy within the functions of the Greek prison system (Davies and Shewan, 2000). Small pilot syringe exchange projects in individual prisons could be started, as in Switzerland (Nelles *et al.*, 2000) and evaluated.

An almost equally high percentage of IDUs (48.8%) and non-IDU inmates (51.2%) in the current study (58.6% on the total sample) reported that they had taken a blood test for HIV prior to their incarceration. This figure is different from that reported in Chapter 4, with regard to the national sample of Greek inmates, where 36% of all inmates had taken an HIV test. Additionally, in the national sample, the percentage of IDUs who had taken an HIV blood test was significantly higher than that of non-IDUs. This difference might be attributed to the different sample sizes used in the two phases of the study. Given the small number of inmates who participated in the second phase and the nature of the sample (purposive) used in the second phase, it is still important that more than half of the inmates asked for an HIV blood test. Thus, it is confirmed that Greek inmates are highly aware of the potential risks to their health outside prison, despite the fact that they feel more at HIV risk inside than outside prison. Nevertheless, outside they have more opportunities to take a test. Furthermore the high levels of concern about their general health and AIDS, which were identified in this study, justify their choice to ask for an HIV testing.

In the present study I looked for potential independent predictors of the reported precautionary measures taken by inmates while in prison, as well as of their precautionary intentions when released. Although a number of options were available, the dependent variables I chose to analyse ("stop sharing while in prison" and "use new syringes when released") represented the most realistic precaution for HIV prevention. For the first criterion variable, which was referred to inside prison, the only predictor identified was the measure of perceived behavioural control, of the Theory of Planned Behaviour, while a marginally significant contribution of past precautionary behaviour ("stopped sharing before incarceration") was also evident. IDU inmates, who believed that they had control over avoiding drug use while incarcerated, were by 17% more likely to have stopped sharing. Those who, before their current incarceration had stopped sharing were six times more likely to do the same while in prison. The role of past behaviour in determining current behaviour is an issue that has attracted a great deal of attention in the literature (Norman and Conner, 1996). A lot of studies (among drug users included) have showed that past behaviour is the best predictor of future behaviour (see Norman and Conner, 1996 for a discussion). At a first glance, results of the present study seem to confirm the above-mentioned reports. Nevertheless, as Ajzen (1991) has argued, past behaviour is only important to the extent to which it influences social cognitive variables, which in turn determine future behaviour. Actually, in our case, it seems that this is the case. Due to methodological limitations of this study (a small sample), only two key social cognitive variables were considered: the "severity" component of the Health Belief Model and the perceived behavioural control (PBC) of the Theory of Planned Behaviour. Results confirmed Ajzen's (1991) argument, by marking out the PBC component as the most important predictor of inmates reported stopping sharing while in prison. A potential explanation of this finding might be that inmates' past behaviour (having stopped sharing

prior to incarceration) enhanced their necessary sense of control, so that they were able to practice a similar protective behaviour while incarcerated.

Regarding inmates' intentions to use new syringes when released, as a means of HIV protection, the most significant predictors were related with social cognitive measures and past behaviour. In line with the hypotheses posed by the theory of the Health Belief Model (Rosenstock, 1966; Becker *et al.*, 1977), IDUs inmates feeling more susceptible to AIDS and perceived it as a severe disease were more likely to adopt a drug-related precautionary behaviour when released. The relevant research on the ability of the HBM to predict drug use-related safe practices is scarce. Our findings are in the opposite direction of that reported by Falck *et al.*, (1995), who found a negative association between susceptibility and safe injection practices among a sample of IDUs at liberty. At the same time, within the present sample, those inmates who valued their health high and had already adopted a safe drug-related preventive behaviour prior to their incarceration were more likely to continue the same safe pattern after their release. These findings are properly interpreted when seen together. Being aware of the risks posed to their health by their injecting behaviour, inmates feel more vulnerable to AIDS. At the same time health is assessed as an important value in IDUs' life and AIDS is perceived a serious threat for health. Precautionary behaviour prior to incarceration might have given to them the necessary reinforcement that this value could be protected, given that specific practices are adopted. Thus, when inmates are released they will probably take advantage of the opportunities offered by the outside world (an easy access to new syringes) and practice a safe behaviour. The longer their stay in prison (the last significant predictor) may act as a motivator to adopt safe practices on release, in the sense that it prolongs the time they are exposed to risks (low opportunities for safe practices while in prison, potential peer pressure for adopting risk behaviours like sharing), thus enhancing their sense of vulnerability to AIDS. Unfortunately, recent findings on changes in IDU behaviour during

the past six years, among two samples of IDUs at liberty (N_1 (1998) = 243, N_2 (1993) = 200) regarding sharing of needles (Kornarou *et al.*, 1999) indicate that what Greek IDUs do is different from what IDU inmates in the current sample report as intentions. According to the results of Kornarou *et al.*'s (1999) study, the frequency of sharing during the past six years occurred approximately at the same levels (39.4% in 1993 and 38.6% in 1998), although the frequency of effective sterilisation increased from 10% to 18.9%. Further research, using larger samples of incarcerated IDUs is required to assess the patterns of behavioural change among inmates over time and especially why intentions do not seem to be "translated" in behaviour. Such research would also allow the inclusion of extra psychosocial variables (i.e. locus of control, or self-efficacy), which have been proposed as significant predictors of health protective behaviours (Norman and Bennett, 1996; Schwarzer and Fuchs, 1996) and clarify these discrepancies in IDUs' intended and actual behaviour.

Also examined in the present study were the predictors of IDUs' reported injecting behaviour inside prison, both indirectly (in terms of intentions to avoid drug injection while in prison) and directly (injection inside prison), from a theoretical perspective. I have to mention here that, to the best of my knowledge, this is the first time that such theory-based research has been conducted in Greece. Results of the present study showed that Greek inmates who perceived greater behavioural control over avoiding injecting while in prison, as well as those who held a negative attitude towards injecting in prison were more likely to intend to avoid injection inside. These results are in line with expectations derived from the TPB (Ajzen, 1991) and provide strong support for the utility of the Theory of Planned Behaviour in predicting drug injecting avoidance intentions. Indeed, there seemed a direct link between measures of perceived control and attitudes and intentions, although not between subjective norms and intentions. Reviews of the studies on TPB are generally supportive to the theory (Ajzen, 1991; Conner and Sparks, 1996; Abraham *et al.*, 1998).

Nevertheless, the theory has not been tested to a great extent on drug use practices. Compared with the results of the limited studies in the area, findings of the present study regarding the prediction of intentions are on the one hand consistent with the findings of Conner and McMillan (1999), who found that attitudes and perceived behavioural control predicted students' intentions to use cannabis. On the other hand, findings of the current study contradict the findings of Hawkins' *et al.*, (1999), who found that subjective norms predicted needle sharing and cleaning among IDUs. These comparisons, nonetheless, should be considered with caution, as significant methodological differences among the three studies existed. More specifically, Conner and McMillan' (1999) studied intentions of a sample of students towards cannabis use, a drug-related behaviour which is not connected with the HIV. Hawkins *et al.*, (1999) used a sample of IDUs at liberty, they tested only one component of the TPB (subjective norms) and used a different measure of actual behaviour - namely needle sharing and cleaning - as the criterion variable. On the other hand, the present study used a sample of incarcerated IDUs and used measures of intentions and actual behaviour referring to injecting drugs inside prison.

Additionally, when a measure of actual drug-related behaviour was used, it was found that the intention component of the Theory of Planned Behaviour, the susceptibility component of the Health Belief Model, and Health Value appear to be the most significant predictors of IDUs' reported continuing injection while in prison. However, when controlling for the value inmates placed on their health (by using an indirect measure of health value), only the susceptibility component remained the most significant predictor. Thus, findings of the present study seemed to favour HBM as a superior model in predicting actual drug-related behaviour in prison. Different studies have used the HBM and the TPB/TRA together in an effort to predict mainly sexual practices (see Norman and Conner, 1996 for a review; also Wilson *et al.*, 1990; Basen-Engquist, 1992; Zimmerman and Olson, 1994), producing mixed results. At the same time, I was not able to detect any study using the

HLOC construct simultaneously with other models, despite the relevant suggestions about the need to include multiple constructs (i.e. health locus of control beliefs, health value and specific behavioural beliefs) (Wallston, 1991). In the present study, when components of the Health Locus of Control were put together with other models, they had no predictive power. Actually this was the case when HLOC was used as a predictor variable of specific drug-related practices adopted by inmates inside prison. As a generalised expectancy health model, the HLOC construct was not anyway expected to be a powerful predictor of specific health behaviours (Wallston, 1992; Norman and Bennett, 1996). The present study did not have any measure of self-efficacy (Bandura, 1977) as a predictor of drug-related behaviour of inmates. Self-efficacy construct appears to be a key predictor of health behaviour (Norman and Conner, 1996). The lack of such an important variable from a theory-based survey definitely restricts our ability to accurately identify all the potential intervening factors of drug use behaviour of inmates.

In the first phase of this study (Chapter 5), I identified that imprisonment-related variables (total time in prison, being a convict), criminality outside prison (previous drug conviction) and risk sexual behaviour prior to imprisonment appeared to have a strong influence on the probability that a drug user injects in prison. Additionally, in the second phase of the study, I identified specific beliefs (susceptibility and intentions) to predict IDUs' injecting in prison. Taken together these two sets of predictors of injecting in prison, give a clearer picture of the factors influencing inmates' injectors' decisions to continue injecting when incarcerated. These factors are both situational and individual. They provide a significant knowledge base for prison authorities and health educators to design health education interventions. Given the complexity of intervening at a situational level (i.e. this would require changes in the Greek Penal Code, which defines the length of imprisonment for each offence), I would suggest that priority should be given to the individual factors. HIV and AIDS education should be tailored to IDUs by means of

personalised risk assessment, risk profile and other methods (Henson *et al.*, 1998), enhancing their personal susceptibility to AIDS. At the same time, programmes running on entrance to prison could provide inmates with skills that could improve their sense of personal control over injecting in prison.

The present study examined for the first time in Greek prisons potential determinants of IDU inmates' intentions to avoid practicing drug-related behaviours inside prison, of their actual drug-related behaviour inside prison, and of the adoption of precautionary drug-related behaviours among inmates, while imprisoned and after release, placing emphasis on social cognitive measures derived from specific Social Cognition Models. This constitutes a step beyond the previous descriptive and "epidemiological" type of research hitherto conducted in Greece. Significant social cognitive predictors were identified. These findings could provide grounds for health interventions in Greek prisons, deriving from scientific theory-based research. Such interventions, targeted at inmates who are to be released, should be designed to enable IDUs to: 1) see themselves as susceptible to AIDS; 2) to understand the severity of AIDS; 3) and reinforce the use of precautions. Finally, these interventions should empower IDUs by providing them with the necessary skills in order to choose the most appropriate and efficient precautionary drug-related practice.

Summary

In this Chapter were examined the prevalence of drug use prior to and during incarceration, as well as the reported precautionary drug-related measures adopted prior to and while in prison and the intentions after release, in a sub-sample of Greek IDUs inmates. Additionally, was tested the ability of specific Social Cognition Models (HBM, MHLC, Health value, TPB) to predict inmates' reported cessation of sharing while in prison, their (intention to) use new syringes after release, as a means of protection for HIV infection, as well as the intended and actual injecting behaviour while in prison. Results showed that compared to outside, inside prison, inmates tended to inject less, but share more, confirming previous findings in Greece and internationally. Use of new syringes was the precaution of preference prior to incarceration and intended to be also after release. This was interpreted in the light that in Greece everyone has easy access to new syringes. On the other hand, during imprisonment, the use of sterilised works and a reduction in sharing were the two mostly reported preventive measures. Results of the regression analyses showed that perceived behavioural control (component of the TPB), past behaviour (having stopped sharing prior to imprisonment) and (marginally) AIDS severity (component of the HBM) were the most significant predictors of inmates' reported cessation of sharing while in prison. On the other hand, susceptibility to AIDS, severity of AIDS (components of the HBM), the value placed on health, total time in prison and past behaviour (having stopped sharing prior to imprisonment) were the most significant predictors of inmates' reported intention to use new syringes after their release, as a means of protecting themselves from getting AIDS. Finally, inmates' intention to avoid drug injecting while in prison was predicted by their attitudes towards injecting inside and their perceived personal control over injecting inside. When variables from all the four models were analysed simultaneously, injectors' susceptibility to AIDS, the value placed on their

health and their intentions to avoid injecting inside were the most significant predictors. Nevertheless, when controlled for the value placed on health, perceived susceptibility remained the only significant predictor. Results were discussed, from a theoretical perspective, in relation to similar patterns of drug use behaviour inside prison, identified in previous Greek and international research and on implications on health interventions for Greek injectors inmates.

Although research suggests that social behaviour is a major risk factor for HIV and other blood-borne virus (HBV) infections, health education is considered to be a key intervention (Dill and Carr, 2000). Numerous studies have stressed the importance of providing individuals with accurate information in order to decrease their risk of HIV transmission, especially after injection (Haber et al., 1998; van de Ven et al., 2007). However, although they intend to use protective measures, inmates are usually not fully motivated in adopting a positive and safer injection practice. Inmates are usually active before their injection (injection) and when they return to their cell (injection) (Gargava, 2000). This suggests that inmates are not fully motivated to change their behaviour. In addition, it is suggested that inmates may be motivated to change their behaviour in order to avoid injection-related consequences (Gargava, 2000). The authors of this study found that inmates are motivated to change their behaviour in order to avoid injection-related consequences. At the same time, changing their behaviour is not an easy task. It is suggested that inmates should face a complex environment which is not always supportive of their intentions to change their behaviour (Farron and O'Connell, 2003). This would be one of the reasons why inmates do not always follow their intentions to change their behaviour.

To the best of my knowledge, no theoretical study has been conducted in Greece to explore the reasons for injecting inside prison. This study is a contribution to the knowledge of injecting inside prison in Greece and it is a first step towards understanding the reasons for injecting inside prison.

CHAPTER 9: Phase 2: Sexual behaviour of Greek inmates prior to imprisonment, and intended sexual practices after release

9.1 Introduction

Although research suggests that sexual behaviour is not a major risk factor for HIV and other blood-borne virus transmission inside prisons – compared to injecting behaviours (Bird and Gore, 2000), numerous studies have stressed the importance of focusing on individuals' safe sexual practices in order to minimise further the risk of HIV transmission, especially after release (i.e. Hubert *et al.*, 1998; van Campenhoudt *et al.*, 1997). Prisons are not a static reservoir of persons. Inmates are sexually active before their incarceration, adopting to a greater or lesser extent precautionary measures, they might be involved in (homo)sexual activities while in prison and intend to continue their sexual life when released (Jürgens, 2000). This continuum in sexual life needs to be systematically studied, as previous (before incarceration) patterns of behaviour or other psychosocial variables may be significant determinants of future (after release) actions. At the same time, studying sexual behaviour is not an easy task. If researchers wish to go beyond a descriptive approach and seek to describe the determinants of behaviour, they have to face a complex phenomenon, characterized to a great extent by impulsivity and affection rather than rational decision-making (Ferrand and Snijders, 1997). This requires the use of sensitive measures and approaches.

To the best of my knowledge, no theory-based study until now – either internationally or in Greece - has studied sexual behaviour of inmates as a continuum,

although significant descriptive studies have been published (Power *et al.*, 1992b). The present study attempts to fill this gap by first, describing the pattern of sexual behaviour and the relevant precautionary measures taken by inmates, prior to their incarceration, during imprisonment and (intentions) after release. Then the present study attempts to identify specific significant predictors of future (after release) sexual behaviour among a number of demographic, penal, psychosocial and theory-based variables.

9.2 Subjects and procedure

As mentioned in Chapter 6, in the second phase of the study among Greek inmates, a representative sample of the male population of the judicial prison of Korydallos - the biggest in Greece - (N = 242) was invited and participated. After permission was granted, the selected inmates were seen in privacy and offered a body of questionnaires together with an open envelope. All inmates were previously informed about the overall procedure of the study, they were offered assurances of anonymity and confidentiality, while the voluntary character of participation was particularly stressed. Those who did not want to take part were free to do so. As the questionnaires required time to be completed, inmates were asked to take them to their cells, to fill them in, and return the sealed envelop with the questionnaires to the researcher on his next visit to the prison (in two days). The response rate was 58.2%. The basic demographic and penal characteristics of the sample, as well as the methodology of the study are presented in detail in Chapter 6 (pp. 160).

9.3 Measures

Sexual practices and precautions

Detailed data of inmates' sexual behaviour, and precautions during sexual intercourse, before incarceration, while in prison and intentions after release, were gathered by means a self-report questionnaire that was constructed for the purpose of the current study. The questionnaire was based on previous similar research among Scottish inmates (Power *et al.*, 1992b).

Before incarceration. Inmates were asked whether they were sexually active ("*Did you have sexual relationships?*") (YES – NO). If they were, they were asked about specific practices: "*Did you practice vaginal / anal sex?* (Always protected – Occasionally protected – Always unprotected – Not Applicable). They were also asked for the number of female and male sexual partners, other than their wife or regular partner, during the last 12 months before their current incarceration. Additionally, they were asked whether they had paid for sexual intercourse from a sexual worker during the last 10 years. With regard to precautions, inmates were given specific options to indicate: "*Regular condom use*", "*Select sexual partners more carefully*", "*Reduce the number of sexual partners*", "*Stop having sex with a particular partner*" (YES – NO). Finally, inmates were asked to indicate how often they thought of their sexual behaviour in relation to AIDS (Never – Rarely – Occasionally – Often – Very often). In the above questions, inmates were also offered the option "No reply".

Inside prison. Inmates were asked whether they ever had penetrative sexual contact with another inmate (YES – NO). If they had, they were asked to indicate the number of sexual partners, whether they were receptive or insertive and whether they had sex with or without protection. Finally, inmates were again given specific precautionary options to

choose: "Regular condom use", "Careful selection of sexual partners", "Reduction of sexual partners" (YES – NO). Again, in the above questions, inmates were also offered the option "No reply".

When released. Inmates were asked for the estimated number of sexual partners they were likely to have one-year after their release, as well as the gender of these partners. Then inmates were asked whether they intended to have vaginal and anal intercourse without protection (Definitely YES – Definitely NO – Not applicable). Regarding the precautions they intended to take, inmates were given specific options to choose: "Choose not to have sex with a particular partner", "Reduce the number of sexual partners", "Select sexual partners more carefully", "Change sexual practices with my partner", "Regular condom use" (Definitely YES – Definitely NO – Not Applicable). Similarly to questions on sexual behaviour prior to and during incarceration, in the above questions, inmates were also offered the option "No reply".

Additionally, the following measures were used in the analyses presented in this Chapter: 1) Knowledge of HIV prevention means, 2) attitudes towards HIV/AIDS and HIV infected persons, 3) perceived risk for HIV/AIDS inside and outside prison and concern regarding general health and AIDS, inside and outside prison, 4) the Health Belief Model (HBM) scale, the Multidimensional Health Locus of Control (MHLC) scale, the Health Value scale (see Chapters 6 and 7 for a detailed description), and 5) the Theory of Planned Behaviour (TPB) scale (see Chapter 8 for a detailed description).

9.4 Results

From the total of 238 inmates who participated, the vast majority (235, 98.7%) had sexual relationships prior to their incarceration. The remaining 3 inmates (1.3%) had no

sexual relationships. These three inmates were all IDUs. I have no additional information on why they were sexually inactive. For the 235 inmates who were sexually active prior to imprisonment, 99 (42.1%) had injected drugs sometime prior to imprisonment and 136 (57.9%) had no history of drug use.

9.4.1 Sexual behaviour prior to imprisonment

All sexually active inmates were asked whether or not they had vaginal or anal intercourse prior to imprisonment and whether they had adopted any precautions with these practices. The information provided by inmates on these issues is presented in Table 9.1.

Table 9.1 Sexual behaviour and precautions of sexually active IDUs (n = 99) and non-IDUs (n = 136) prior to imprisonment

Prior to imprisonment did you have?	Vaginal intercourse		Anal intercourse*	
	IDUs n (%)	non-IDUs n (%)	IDUs n (%)	non-IDUs n (%)
Always protected	18 (18.8)	34 (27.2)	17 (20.5)	28 (25.2)
Occasionally protected	44 (45.8)	45 (36.0)	35 (42.2)	27 (24.3)
Always unprotected	33 (34.4)	39 (31.2)	25 (30.1)	15 (13.5)
No	1 (1.0)	7 (5.6)	6 (7.2)	41 (36.9)

* $\chi^2 = 28.8$; $df = 3$; $p < .001$

As Table 9.1 shows, the majority of IDUs and non-IDUs had vaginal intercourse but used protection occasionally. A significant percentage of both groups (more than one third) did not use any protection at all when they had vaginal intercourse. Almost one third (27.2%) of non-IDUs reported that they always had vaginal intercourse with protection,

while the corresponding percentage for IDUs was 18.8%. A significant percentage of IDUs had been involved in anal intercourse and they followed the same pattern of protection, as with the vaginal intercourse. The majority of them (42.2%) used protection occasionally; one third of them did not use any protection at all, while 20.5% had anal intercourse always protected. From those non-IDUs that had anal intercourse, almost half (49.5%) used protection, although not always on a regular basis. A significant difference between the sexual behaviour of IDUs and non-IDUs appeared in terms of practicing anal intercourse and the way that behaviour was practised. Significantly more non-IDUs than IDUs abstained from anal intercourse, while significantly more IDUs than non-IDUs had anal intercourse always unprotected ($\text{Chi}^2 = 28.8$; $\text{df} = 3$; $p < .001$).

In order to assess levels of sexual activity and promiscuity, all sexually active inmates were asked how many female and male sexual partners – except their wives or stable partners – each inmate had in the last twelve months prior to imprisonment. Results are presented in Table 9.2.

Table 9.2 Number of female and male sexual partners for sexually active IDUs ($n = 99$) and non-IDUs ($n = 136$) in one year prior to imprisonment

No of partners	Female		Male	
	IDUs n (%)	non-IDUs n (%)	IDUs n (%)	non-IDUs n (%)
None	21 (21.3)	48 (37.2)	91 (95.8)	120 (98.4)
1	27 (27.6)	25 (19.4)	3 (3.2)	1 (0.8)
2-5	27 (27.6)	36 (27.9)	1 (1.1)	---
6-10	10 (10.2)	8 (6.2)	---	---
More than 11	13 (13.3)	12 (9.3)	---	1 (0.8)

As can be seen in Table 9.2, both groups had a rich sexual heterosexual history and were promiscuous enough, in 1 year prior to their imprisonment. The majority of both groups (IDUs: 78.7%; non-IDUs: 62.8%) reported sexual contacts with females, other than their wives or the stable partner. Regarding homosexual activity, the overwhelming majority of both groups abstained from such behaviour.

9.4.2 Precautions re sexual behaviour prior to imprisonment

All inmates with a sexual history were asked whether they had adopted any sexual precautions prior to imprisonment in order to reduce their chance of becoming infected with HIV. Inmates' responses to a range of options to reduce risk are presented in Table 9.3.

Table 9.3 Adoption of precautions for sexually active IDUs (n = 99) and non-IDUs (n = 136) prior to imprisonment, to reduce chance of becoming infected with HIV

Precautions	IDUs		non-IDUs	
	YES n (%)	NO n (%)	YES n (%)	NO n (%)
Use condoms regularly	47 (49.0)	49 (51.0)	66 (51.2)	63 (48.8)
Select partners more carefully	75 (76.5)	23 (23.5)	106 (81.5)	24 (18.5)
Reduce sexual partners	46 (47.9)	40 (52.1)	71 (55.5)	57 (44.5)
Stop having sex with a partner	31 (34.1)	60 (65.9)	45 (35.4)	82 (64.6)

As Table 9.3 shows, half of both IDUs and non-IDUs had adopted regular use of condoms. The majority of both groups (non-IDUs: 81.5%, IDUs: 76.5%) reported careful selection of partner as the precaution of choice. Finally, a similar proportion of IDUs (34.1%) and non-IDUs (35.4%) reported that they had stopped having sex with a particular

partner, in order to reduce the risk of HIV infection.

Finally, all sexually active inmates were asked whether they thought of their sexual behaviour in relation to AIDS. Their responses are showed in the Table 9.4.

Table 9.4 Thought of sexual behaviour in relation to AIDS for sexually active IDUs (n = 99) and non-IDUs (n = 136) prior to imprisonment

<i>Thought of sexual behaviour in relation to AIDS</i>	IDUs n (%)	non-IDUs n (%)
Never	17 (17.5)	22 (16.7)
Rarely	19 (19.6)	15 (11.4)
Occasionally	21 (21.6)	24 (18.2)
Often	25 (25.8)	36 (27.3)
Very often	15 (15.5)	35 (26.5)

As seen in Table 9.4, there were no significant differences between the two groups with regard to the way they thought of their sexual behaviour in relation to AIDS.

9.4.3 Sexual behaviour within prison

From the 238 inmates who replied, only 3 (1.3%) reported sexual contact with another inmate while imprisoned. One inmate (0.4%) refused to answer this question. From the 3 inmates who had been sexually active within prison, one had sex with 1 partner, one with 2-5 partners, while one reported 6-10 sexual partners. Two of these inmates had been insertive during anal intercourse, while one had intercourse both receptively and insertively. All 3 inmates reported that they had been involved in unprotected intercourse (no condom use), although two of them said that they had selected their partners carefully.

9.4.4 Expected sexual behaviour after release

All inmates were asked how many sexual partners they thought they would have one year after their release. 209 inmates (86.4%) replied to this question. The rest 33 inmates (13.6%) did not answer. More than half of the 209 inmates who expressed their sexual intentions (111, 53.1%) stated that they would be monogamous, while one third of them (70, 33.5%) stated that they expected to have 2-5 sexual partners. Smaller percentages of inmates reported multiple partners ("6-10", 6.2%; "more than 11", 7.2%). Expressing their intentions with regard to sexual orientation after release, all non-IDUs inmates declared an exclusively heterosexual orientation. The vast majority of IDU inmates (91%) stated that their partners' gender would be exclusively female. 5 IDUs (5.4%) reported an exclusive homosexual intention, while 4 IDUs (4.3%) reported a future bisexual intention ($\text{Chi}^2 = 11.3$; $\text{df} = 2$; $p < .005$).

Only those inmates who expressed an intention to be sexually active after release ($n = 209$) were asked whether they expected to have vaginal and anal intercourse without protection. Results are presented in Table 9.5.

Table 9.5 Likelihood of unprotected sexual behaviour of intended sexually active IDUs (n = 92) and non-IDUs (n = 117) one year after release

	Unprotected vaginal intercourse		Unprotected anal intercourse*	
	IDUs	non-IDUs	IDUs	non-IDUs
	N (%)	n (%)	n (%)	n (%)
Definitely yes	28 (31.1)	51 (45.9)	24 (27.0)	17 (16.5)
Very likely	23 (25.6)	21 (18.9)	23 (25.8)	16 (15.5)
Unsure	14 (15.6)	8 (7.2)	15 (16.9)	8 (7.8)
Very unlikely	5 (5.6)	11 (9.9)	6 (6.7)	14 (13.6)
Definitely no	20 (22.2)	20 (18.0)	21 (23.6)	47 (45.6)

*Chi² = 17.8; df = 5; p < .005

As can be seen in Table 9.5, more than half of both groups (56.7% of IDUs and 64.8% of non-IDUs) were very unlikely or definitely would not use protection during vaginal intercourse after release. On the other hand, almost similar percentage of IDUs (22.2%) and non-IDUs (18%) stated that they definitely would use protection during vaginal intercourse. In percentage terms, these figures are lower than those reported by both groups regarding the precautions they used to take before imprisonment (see Table 9.3).

With regard to anal intercourse after release, double the percentage of non-IDUs (59.2%) than IDUs (30.3%), intended to definitely or very likely to have protected intercourse. This difference between the two groups was statistically significant (Chi² = 17.8; df = 5; p < .005).

9.4.5 Precautions re sexual behaviour intended to be adopted by inmates after their release

The 209 inmates who stated that they would be sexually active after release were also asked what other precautions they might adopt in order to reduce the chance of getting infected with HIV. Tables 9.6a and 9.6b show inmates' responses to a number of available options.

Table 9.6a Adoption of precautions for intended sexually active IDUs (n = 92) and non-IDUs (n = 117) inmates, after release, to reduce chance of getting AIDS

	Not having sex with a particular partner		Reduce nos of partners		Select partners more carefully	
	IDUs	non-IDUs	IDUs	non-IDUs	IDUs	non-IDUs
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Definitely yes	28 (31.8)	30 (30.9)	35 (39.8)	48 (46.6)	62 (70.5)	78 (73.6)
Very likely	13 (14.8)	20 (20.6)	17 (19.3)	14 (13.6)	15 (17.0)	9 (8.5)
Unsure	15 (17.0)	9 (9.3)	15 (17.0)	8 (7.8)	6 (6.8)	3 (2.8)
Very unlikely	9 (10.2)	7 (7.2)	8 (9.1)	8 (7.8)	1 (1.1)	3 (2.8)
Definitely no	23 (26.1)	31 (32.0)	13 (14.8)	25 (24.3)	4 (4.5)	13 (12.3)

Table 9.6b Adoption of precautions for intended sexually active IDUs (n = 92) and non-IDUs (n = 117) inmates, after release, to reduce chance of getting AIDS

	Change sexual practices with partner		Use condom regularly	
	IDUs	non-IDUs	IDUs	non-IDUs
	n (%)	n (%)	n (%)	n (%)
Definitely yes	7 (7.9)	10 (9.9)	29 (33.3)	41 (37.6)
Very likely	17 (19.1)	12 (11.9)	19 (21.8)	15 (13.8)
Unsure	15 (16.9)	14 (13.9)	16 (18.4)	21 (19.3)
Very unlikely	15 (16.9)	12 (11.9)	9 (10.3)	7 (6.4)
Definitely no	35 (39.3)	53 (52.5)	14 (16.1)	25 (22.9)

As Tables 9.6a and 9.6b illustrate, a significant and similar percentage of both IDUs (70.5%) and non-IDUs (73.6%) would definitely select their partners more carefully. Almost half of both groups (46.6% of IDUs; 51.5% of non-IDUs) were certain or thought it very likely that they would stop having sex with a particular partner. Furthermore, 29 IDUs (33.3%) and 41 non-IDUs (37.6%) were certain or thought it very likely that they would regularly use condoms. On the other hand, 35 (39.3%) of IDUs and an even higher percentage of non-IDUs (52.5%) would definitely not change sexual practices with their partner.

9.4.6 Predictors of inmates reported precautionary measures re sexual behaviour

In order to identify potential predictors of inmates' intentions to practice condom use regularly after their release, a logistic regression model was applied, calculating the odds ratios for each of a number of independent variables in the model. "Safe vaginal and anal intercourse", although presented as HIV precautionary options to inmates, were not

considered, as I thought that they were too vague as regards their effectiveness in protecting people from HIV/AIDS. Additionally, as HIV precautionary means, they seem to overlap with the "use of condom" alternative.

In the model, the reported intention of inmates to use condoms regularly, as a means of reducing the chances of getting AIDS, initially expressed in a five point Likert scale (1 = "Definitely No" to 5 = "Definitely Yes") was transformed to a dichotomous variable (0 = "no", 1 = "yes") ([5 = "Definitely Yes"] = 1 ("yes"), [all other answers] = 0 ("no")). Then this variable was regressed on selected demographic, penal and theory-based variables. More specifically, the following variables were used as independent predictors:

1) *Demographic*: Age (in years). Family status [{"married" and "cohabit"} = 1 ("In a stable relationship"); {"unmarried", "divorced", "separated", "widower"} = 0 ("Not in a stable relationship")]. Educational level [{"illiterate", "primary"} = 1 ("Up to primary education"); {"secondary", "high school"} = 2 ("Secondary education"); {"higher", "university"} = 3 ("Higher education")]. Being an IDU (1 = "yes", 0 = "no").

2) *Penal*: current time in prison (in months).

3) *Knowledge, attitudes and practice*:

- Correct knowledge of methods of preventing HIV transmission subscale (score): [The subscale comprised 7 items, each measured in a "True" - "False" - "Don't know" answering scale. Score was extracted by adding number of correct answers and then dividing this number with the total number of items (7). Higher score represented more accurate knowledge].

- Total attitude score [Attitude questions were rated on a 5 point Likert scale, from "Strongly agree" to "Strongly disagree". Higher scores represented more liberal attitudes concerning AIDS issues. The score was calculated by adding each attitude item's score

and then dividing by the total number of items (17)].

4) *Having had an AIDS test* (1 = "yes", 0 = "no").

5) *Risk, concern*: Perceived personal AIDS risk inside and outside prison and concern of AIDS outside prison (1 = "Not at all" to 5 = "A great deal").

6) *HBM*: Susceptibility, severity, benefit (from using condoms) and cost (from using condoms) scores. The scores derived from the scale: 1 = "Strongly Disagree to 5 = "Strongly Agree". Higher scores represented higher perceived AIDS susceptibility, higher sense of AIDS severity, and stronger beliefs regarding the benefits and the costs of adopting the HIV-protective behaviour).

7) *MHLC*: The 18-item Multidimensional Health locus of Control (MHLC) scale (Wallston *et al.*, 1978) was used. Each of the three locus of control dimensions (internal, powerful others, chance) comprised six items measuring the strength of differing control beliefs, using a six-point Likert scale, ranging from 1 = "Strongly disagree" to 6 = "Strongly agree". Higher scores represented stronger beliefs on the role of each of the locus of control dimensions.

8) *Health value*: The Lau's *et al.*, (1986) scale was used. The scale comprised four items, and inmates were asked to indicate in a seven point Likert scale ranging from 1 = "Strongly agree" to 7 = "Strongly disagree", the value they placed on health. Due to the negative wording of two items, the first and the fourth items were reverse coded according to the instructions (Norman and Bennett, 1996), so that higher scores indicating higher value attached to health.

9) *Previous sexual behaviour*: regular condom use prior to imprisonment (1 = "yes", 0 = "no").

The model was applied for all sexually active inmates who had reported any kind of vaginal or anal intercourse before their incarceration (N = 214). In Table 9.7 are presented

the characteristics of inmates who do and do not intend to regularly use condoms after their release.

Table 9.7 Inmates' reported intention to regularly use condoms after their release (N=214)

<i>Variables</i>	YES (n = 74)		NO (n = 140)	
	mean	S.D.	mean	S.D.
Age	37.0	9.1	36.2	9.7
Time in prison (months)	17.4	17.9	17.8	22.7
Knowledge of prevention means	.65	.24	.68	.21
Attitudes	3.7	.44	3.5	.61
HBM				
Susceptibility	3.0	1.1	3.1	1.0
Severity	3.5	.83	3.7	.89
Benefits	4.7	.62	4.4	.80
Costs	2.7	1.5	3.8	1.2
MHLC				
Internal	29.2	5.6	28.5	5.0
Powerful others	27.4	5.6	26.1	6.1
Chance	18.3	7.1	20.9	7.0
Health Value	22.5	5.5	20.8	5.6
		%		%
Family status				
In stable relationship	28.4		71.6	
In unstable relationship	38.5		61.5	
Educational level				
Up to primary education	35.1		64.9	
Secondary education	32.7		67.3	
Higher education	35.7		64.3	
		%		%
Having had the HIV test				
YES	37.6		62.4	
NO	29.3		70.7	

Table 9.7 (cont.) Inmates' reported intention to regularly use condoms after their release
(N = 214).

Variables	YES (n = 74)	NO (n = 140)
	%	%
AIDS concern outside		
Not at all	22.5	77.5
Little	31.4	68.6
Medium	30.0	70.0
A lot	45.3	54.7
A great deal	40.8	59.2
HIV personal risk outside		
Not at all	52.6	47.4
Little	36.1	63.9
Medium	50.0	50.0
A lot	44.8	55.2
A great deal	57.9	42.1
HIV perceived risk inside		
Not at all	38.8	61.2
Little	31.4	68.6
Medium	37.9	62.1
A lot	35.1	64.9
A great deal	30.6	69.4
Regular use of condoms before		
YES	56.1	43.9
NO	10.1	89.9
Being a drug user		
YES	33.7	66.3
NO	36.1	63.9

As can be seen in Table 9.7, there were no significant differences between those who did not intend to use condoms regularly when released and those who did intend to

use condoms, with regard to age, current length of time imprisoned, knowledge of prevention means, susceptibility to AIDS, severity of AIDS, internality, family status, educational level, having had the HIV test, AIDS concern outside prison, HIV perceived risk inside and outside and being a drug user. However, compared to those who did not intend to use condoms regularly when released, those who did intend to use condoms had more favourable AIDS-related attitudes ($t(196) = -2.1, p < .05$), they perceived more benefits ($t(195) = -2.6, p < .01$) and less costs ($t(195) = 5.9, p < .001$) from using condoms, they were more likely to perceive powerful others as controlling health ($t(196) = -2.2, p < .05$) and less likely to perceive chance as the locus of control of their health ($t(196) = 2.7, p < .01$). Finally, significantly more inmates who did not intend to use condoms regularly when released had not regularly used condoms before imprisonment ($\text{Chi}^2 = 46.2; \text{df} = 1; p < .001$).

Nevertheless, the data presented in Table 9.7 were inherently confounded and therefore not directly interpretable. In order to assess the potential predictors of inmates' reported intention to regularly use condoms when released, a linear regression model was computed. In this model, the standardised beta weights derived from the regression equation described the relations between the above-mentioned demographic, penal and psychosocial variables, while controlling for mutual confounding. The analysis was applied to all sexually active inmates ($N=214$). The procedure involved only one step in which all independent variables were entered simultaneously into the model. The results of this analysis are shown in Table 9.8.

Table 9.8 Regression of inmates' reported intention to regularly use condoms when released on past sexual behaviour and selected demographic, penal and theory-based variables (N=214)

<i>Variables</i>	R ² (adjusted)	Beta
	.427	
Age (years)		-.069
Time in prison (months)		.061
Knowledge of prevention means		-.075
Attitudes		.028
Susceptibility		.125
Severity		-.078
Benefits		.135*
Costs		-.145*
Internal MHLC		-.028
Powerful others MHLC		-.065
Chance MHLC		-.150*
Health Value		.019
Family status		-.064
Educational level		-.061
Having done the HIV test		-.089
AIDS concern outside		.061
HIV personal risk outside		.085
HIV perceived risk inside		-.032
Regular condom use before		.541**
Being a drug user		-.008

* $p < .05$; ** $p < .001$

As can be seen in Table 9.8, together, the factors accounted for 43% of the variance of inmates' intentions for using condoms regularly after release ($F(20, 137) = 6.84, p < .000$). The variable referring to past behaviour (regular condom use before incarceration) was the most significant predictor. More specifically, those who were using condoms regularly prior to their incarceration, those who were perceiving less sex-related cost (annoyance in using condoms) and more sex-related benefits (using condoms is an effective way to protect from AIDS) and those inmates less believing that chance was the

locus of control of their health were significantly more prone to use condoms after their release.

In order to be consistent with the relevant theoretical requirements (Lau *et al.* 1986; Wallston, 1992), and potentially enhance the predictive ability of the theories used in the model, I applied the same regression model only among those sexually active inmates who valued their health as high (N = 128), using the median of the Health Value Scale (22) as the cutting point. Again, the procedure involved only one step in which all independent variables were entered simultaneously into the model. In the Table 9.9, below are presented the results of this analysis.

Variable	B	SE	t	p
Code	-.371	.085	-4.36	.000
Internal MHC	.087	.034	2.56	.011
Powerful other MHC	-.034	.034	-1.00	.318
Chance MHC	-.055	.034	-1.62	.107
Family status	-.085	.034	-2.47	.014
Educational level	.001	.034	.03	.976
Having done the HIV test	-.036	.034	-1.06	.291
AIDS concern outside	.020	.034	.59	.554
HIV personal risk outside	.231*	.034	6.80	<.001
HIV perceived risk inside	-.105	.034	-3.09	.002
Regular condom use before	.357**	.034	10.50	<.001
Being a drug user	-.045	.034	-1.32	.186

As can be seen in Table 9.9, including all these variables into the model resulted in a significant amount of variance explained (adjusted R-squared = .475, $p < .001$), with some of the variables showing significant predictors in the previous model: regular condom use prior to incarceration, perceived one's own HIV risk outside of prison, and the locus of control over health changed. More specifically, the variables referring to past behaviors (regular condom use before incarceration) remained the most

Table 9.9 Regression on reported intention to regularly use condoms when released for those inmates who value their health as high (N = 128) on past sexual behaviour and selected demographic, penal and theory-based variables

<i>Variables</i>	R ² (adjusted)	Beta
	.426	
Age (years)		.005
Time in prison (months)		.066
Knowledge of prevention means		-.075
Attitudes		.020
Susceptibility		.239
Severity		-.266**
Benefits		.128
Costs		-.071
Internal MHLC		-.097
Powerful others MHLC		-.094
Chance MHLC		-.153
Family status		-.083
Educational level		.001
Having done the HIV test		-.008
AIDS concern outside		-.029
HIV personal risk outside		.226*
HIV perceived risk inside		-.150
Regular condom use before		.557***
Being a drug user		-.045

* $p < .05$; ** $p < .01$; *** $p < .0001$

As can be seen in Table 9.9, focusing on those inmates who valued their health as high, the amount of variance explained remains the same ($F(19, 77) = 4.75, p < .000$), while some of the variables shown as significant predictors in the previous model (regular condom use prior to incarceration, perceived sex-related benefits and costs and belief on chance as the locus of control over health) changed. More specifically, the variable referring to past behaviour (regular condom use before incarceration) remained the most

significant predictor. Additionally, the effect of benefit and cost components diminished, as did the effect of the Chance Locus of Control component. Furthermore two new variables came up as significant predictors. Those perceiving AIDS as severe and those perceiving themselves as at high risk outside prison were more likely to regularly use condoms when released.

9.5 Discussion

Greek inmates in the current study appeared as having a rich sexual life prior to their incarceration and intended to continue as such after their release. Prior to incarceration, inmates' sexual life could be characterised as highly risky since a significant proportion of them were involved in sex with a sexual partner other than their wives or their primary partner as well as being involved in unprotected anal and vaginal intercourse. IDU inmates practiced more risky sexual behaviour than non-IDUs. Although almost half of both groups reported use of condoms as a means of preventing HIV transmission prior to incarceration, the protection of preference for both groups was the careful selection of partners, both prior to imprisonment and was expected to be so after release. This pattern of a risky sexual behaviour prior to incarceration is in line with previous findings in European prisons (Käll, 1994; Rotily *et al.*, 1995) while it quite similar to the reports of Power *et al.*, (1992b) from their study among Scottish inmates. Nevertheless, a striking difference between Greek and Scottish inmates appeared in relation to condom use. Impressively lower percentages of Scottish inmates reported use of condoms prior to incarceration. Condom use is considered a common practice in Greece, although it is closely connected with infidelity and the main reason for use is contraception (Agrafiotis and colleagues, 1997a). Condom use was reported by 51.1% and 68.6% of two samples

of Athenians, aged 30-39 years old (our inmate's mean age was 37.2 years) in the context of two KABP studies conducted at the beginning of 1990s (Dubois-Arber and Spencer, 1998). Nevertheless, these figures are among the lowest reported among sixteen European countries that participated in the European Concerted Action Project. For example, the corresponding figure for the United Kingdom was 80.9% for men, aged 18-59 years (Dubois-Arber and Spencer, 1998). Given these differences on the rates of condom use among the Greek and British general population, it is difficult to explain the difference shown in condom use among Greek and Scottish inmates. Nevertheless, the high rate of condom use prior to incarceration among Greek inmates might be attributed to the fact that Greek inmates reported increased levels of sexual activity with a casual partner (other than their wives or their regular partner). Thus, Greek inmates seemed to confirm the Greek cultural pattern, which connects condom use with infidelity.

On the other hand, it is worrying that the majority of Greek inmates reported careful selection of partners, before and after their incarceration, as the precaution of choice. This figure is in line with the results of the Athenians' KABP study reported from Peto *et al.*, (1998), which indicated that careful selection was the most preferable choice for HIV protection, among the population. It seems that ten years later, the belief that careful selection of partners could protect someone from AIDS is still present. Additionally, a significant percentage of inmates in the current study reported that they would reduce the number of sexual partners as a means of protecting themselves from AIDS, when released. These results, combined with the absolute intention expressed by a significant proportion of inmates to get involved in unprotected vaginal and anal intercourse, indicates a rather pessimistic perspective for inmates when released. Obviously the effectiveness of such practices for HIV protection is questionable. Additionally, results on inmates' knowledge (Chapter 7) showed that almost half of them erroneously believed that they

could effectively protect themselves by only having sex with people who look fit and healthy. It might be possible that inmates' sexual behavioural choices in relation to AIDS are made on the ground of this false knowledge. These findings call for an immediate intervention in prison settings. Health education messages addressing specifically these issues (effective means of protection from HIV) should target inmates just before they are released, as well as those who, according to Greek Penal Code, are entitled to weekly leave. Obviously there is a knowledge gap needed to be covered. Nevertheless, over and beyond simple provision of information, a change in inmate's attitudes towards the effectiveness of specific sexual behaviour is required. Forming a positive attitude towards condoms as the main means of HIV protection should be a priority for health educators.

In Chapter 8 of this report it was shown that Greek IDU inmates report at a significant level, adoption of drug taking risk reduction practices prior and during to imprisonment, as well as (intentions) after release. As shown in the above paragraphs of this Discussion chapter this was not the case as far as sexual behaviour risk reduction strategies. Both prior to incarceration and after release, for those IDUs who reported any kind of sex-related protective behaviour, half reported use of condoms, while the majority reported adopting the questionable practice of selecting partners carefully. These findings are in line with previously reported works internationally (Power *et al.*, 1992b; Rhodes *et al.*, 1998) and in Greece (Kornarou *et al.*, 1999), where the frequency of effective sterilization has reportedly increased, but regular use of condoms among IDUs was reported only with casual partners. Ethnographic work (Rhodes and Quirk, 1996, cited in Rhodes *et al.*, 1998) among IDUs suggested that compared with the risks related to sex, injection risks not only were perceived to be a more efficient HIV transmission route, but also viewed as more immediate, more likely and thus more important. On the other hand,

IDUs viewed unprotected sex as normal in heterosexual long-term relationships. This explanation could be applied to Greek IDUs also. Indeed, as mentioned above, condom use in Greek society is connected with infidelity (Agrafiotis and colleagues, 1997a). IDU inmates' reported rates of condom use prior to incarceration approaches the rates of IDUs involved in sexual relationships with casual partners (other than ones wife or regular partner). Additionally, the majority of Greek IDUs occasionally or never thought of their sexual behaviour in relation to AIDS. Furthermore, the common idea of all AIDS-related health education messages released in Greece until now has been that the basic means for HIV prevention among IDUs should be the use of new or sterilised syringes. Nevertheless, during the last two years, there has been a shift of health education messages in Greece towards the direction of pointing out the enhanced risk for HIV transmission through heterosexually oriented unprotected sexual contacts. We speculate that IDUs perceive themselves as more "IDUs" than "heterosexuals" and exclude themselves from the groups of the general population who might be personally concerned with these messages. These data call for health education interventions, specifically designed for IDUs. Initially, in depth research is required, so that IDUs perceptions, expectations and norms about benefits and barriers of condom use, as well as about the risk orientation (drug use vs sexual behaviour) are explored in detail. One might argue that specifically designed messages should be designed for and communicated to IDUs using peer education techniques, community action and other behaviour change strategies. These messages should specifically address the need for a parallel change in both drug-related and sex-related behaviour, in order to reduce the risk for HIV transmission.

In the present study, there was a reported negligible percentage (1.3%) of high risk homosexual activity inside prison. One could argue that this figure actually underestimates the true rates of homosexual practices in prison, mainly due to the potential unwillingness

of inmates to admit an illegal action for fear of disciplinary action, and because prison conditions (overcrowding, long sentences posed to inmates) might favour the practice of such behaviours. Nevertheless, there are specific arguments that this is not the case. Firstly, assurances of anonymity and confidentiality were provided and inmates completed the questionnaires in their cells, in privacy, thus eliminating the possibility to be identified by their answers. Secondly, the low rate found in phase 2 of the study, replicates the low rate of homosexual activities (3.0%) reported in phase 1 of the study, which was conducted at a national level. Thirdly, homosexuality in Greece seems to be very low (0.1%, in a sample of Athenians, at the beginning of 90s) (Sandfort, 1998). Finally, early research in Greek prisons (NCSR, 1988) showed that Greek inmates believe that sexual deprivation in prison is faced with masturbation or abstinence.

I further explored the existence and the predictive power of several independent factors derived from demographic penal and psychosocial measures on inmates' anticipated regular use of condoms when released. The factor that strongly predicted inmates' intention to use condoms was past behaviour. Indeed, inmates who regularly used condoms prior to their incarceration were significantly more likely to anticipate behaving in the same safe way after their release. The predictive utility of past behaviour in intentions to use condoms has been shown in surveys among teenagers (Abraham *et al.*, 1992) and gay men (Aspinwall *et al.*, 1991) while there is an argument on the potential existence of a powerful "habitual" element in sexual behaviour (Abraham and Sheeran, 1994). On the other hand, Ajzen (1988, 1991) has argued that the impact of past behaviour on intentions and future behaviour is mediated by the TPB variables, especially perceived behavioural control. In our case, the influence of past behaviour was not mediated by any of the social cognitive variables used - past behaviour seemed to have an independent effect on intended future behaviour. I assume that these results could be

explained in relation to habit (Norman and Conner, 1996; Conner and McMillan, 1999). Indeed, it might be possible that the repeated regular condom use prior to imprisonment has lent to that particular practice a strong "habitual" character.

From the perceived risk/concern variables used in the analyses, HIV risk perception outside prison predicted inmates' intentions to use condoms regularly when released, only for those inmates who valued their health high, contradicting previous findings (see Kowalewski *et al.*, 1997; Henson *et al.*, 1998 for a review). This finding of the current study seems to provide support to the idea that if persons perceive themselves as at enhanced risk for contracting a disease, they will adopt precautionary actions in order to protect oneself. Nevertheless, it seems difficult at first glance to interpret the finding that inmates who were more likely to perceive themselves as being at risk inside prison, reported higher intention to use condoms when released. My speculation is that reported intention functions as a prospective coping mechanism for relieving inmates' stress posed by their perception of prison as highly risky place for HIV, or as a coping mechanism for having participated in high risk sexual behaviours prior to imprisonment. In other words, the more inmates consider themselves vulnerable to HIV inside and prior to imprisonment, the more they (cognitively) resort to a future safe and secure situation. Definitely, further research is required to explore and understand the potential psychological perceptual mechanisms of inmates that enable them to cope with imprisonment and life thereafter.

Results of the present study indicated that specific components of the Health Belief Model (HBM) contributed significantly to explaining inmates' intentions to regularly use condoms when released. Indeed, in the present study, it was found that perceived AIDS severity, and perceptions of the benefits and costs from using condoms were significant predictors of inmates' intention to regularly use condoms when released. Findings of previous studies on the predictive utility of the components of the HBM in relation to

sexual behaviour, conducted in different populations (at liberty and during incarceration) had consistently shown that only perceived susceptibility and perceived costs were the most significant predictors of condom use (Abraham *et al.*, 1992; Wilson and Lavelle, 1992; Walter *et al.*, 1992; Yep, 1993; Zimmerman and Olson, 1994; Rimberg and Lewis, 1994; Bloor *et al.*, 1992; Basen-Engquist, 1992; Carlson *et al.*, 1994; Lux and Petosa, 1994). Findings of the current study only partially confirmed previous results, but also showed that the two other HBM components (AIDS severity and perceived benefits from using condoms) were also significant in predicting sexual behaviour intentions, especially among inmates who valued their health as high. On the other hand, findings of the current study are in line with research conducted among heterosexual adults (Buunk *et al.*, 1998), which had shown an association between barriers and intention to use condoms. The direction of the findings of the present study is in line with the hypotheses posed by the HBM theory. The present series of studies suggested that inmates who were motivated by perceptions of AIDS as a severe disease, and simultaneously perceived more benefits and less barriers for condom use, expressed a greater intention to adopt such adequate precautionary measures. The above findings indicate that specific components of the HBM could be quite useful in explaining condom use intentions among inmates. Given the paucity of previous research in the field, this study constitutes an important step forward in the research on the HBM.

From the Health Locus of Control components (Wallston and Wallston, 1978), chance beliefs were found highly significant predictors of inmates' anticipated regular use of condoms when released, in the direction that the theory requires (Wallston, 1992; Norman and Bennett, 1996), although the effect of this component was diminished when Health Value was used as a moderator. Despite recent research in prisons (Robertson and Levin, 1999) having failed to show any of the locus of control dimension as significant

predictors of past sexual risk behaviour, findings of the present study are in line with previous findings among gay men (Kelly *et al.*, 1990; Price-Greathouse and Trice, 1993), adolescents (St Lawrence, 1993) and women on methadone (Schilling *et al.*, 1993), although the latter study used the Rotter's (1966) Internal-External Locus of Control scale. Nevertheless, none of the above studies has used a measure of health value in conjunction with the HLOC construct, as required by the original Social Learning Theory, upon which the locus of control construct is based (Lau *et al.*, 1986; Weiss and Larsen, 1990; Wallston, 1991). In the present study a measure of Health Value (Lau *et al.*, 1986) was used both as an independent predictor of inmates' intentions to regularly use condoms after their release, and as a moderator of the relationship between Internal HLOC beliefs and inmates' intentions to regularly use condoms after their release. When the measure of Health Value was used in an additive way, it was not shown to be a significant predictor of the measure of sexual behaviour examined. Nevertheless when separate analysis was conducted for those inmates who placed high value in their health, Health Value mediated the effect of a number of predictor variables. More specifically, the effect of perceived benefits and perceived barriers measures disappeared. Conversely, perceived severity and perceived risk outside prison emerged as significant predictors of intentions for regular condom use after release. Additionally, Chance HLOC components did not remain a significant predictor. I am not aware what aspect of their health inmates were referring to when they completed the Health Value scale. Were they referring to their health while in prison? Or were they referring to their health when released? At the time of study, inmates were probably not in a situation of facing an immediate life-threatening condition. On the other hand, due to the low hygiene conditions of Greek prisons, their physical (and mental) health might be actually in some danger. Nevertheless, the finding of the current study that inmates who worried for their general health also worried about

HIV transmission more outside than inside prison, as well as the finding that a high percentage (64.5%) of inmates thought of their sexual behaviour in relation to AIDS, could give a clue that inmates valued their physical health outside prison in close conjunction to AIDS.

This pattern of results confirmed the speculations proposed by Lau *et al.*, (1986) regarding the interaction between Health Value and components of the Locus of Control and HBM. Indeed, after adjustments for the value placed by inmates on their health, the only remaining significant predictors were all related to social cognitive variables. Under this perspective, the results of the present study could be considered as shedding some light on the relationships of social cognitive variables and the health protective behaviour, despite that the latter was measured only at an intentional level.

Interpreting the results of this study, one should take into account specific limitations. The purpose of this study was not to compare the different Social Cognition Models, nor even to test any of these models exhaustively. Instead, considering the HBM as a starting point of reference (as the most widely used model) and following previously reported recommendations (Carmel, 1990/91; Strecher and Rosenstock, 1997; Norman and Bennett, 1996) the present research used specific components of the models in an exploratory, explanatory way and tried to incorporate additional social cognitive variables in an effort to explain such a complicated issue as sexual behaviour. For a variety of situational and methodological reasons, this approach is never fully comprehensive. For instance, I did not consider important components: e.g. the "cues to action" component of the HBM; the "intention" component of the Theory of Planned Behaviour; or the "self-efficacy" construct (Bandura, 1977) of the Social Cognitive Theory. Additionally, due to the small sample size, I was not able to perform statistical analyses of the variables considered strictly according to the theories.

The cross-sectional character of the study posed important constraints in verifying the actual sexual behaviour of inmates when released. Indeed, only behavioural intentions and not actual behaviours were included. Sexual behaviour is very complex, as it involves complicated and habitual behaviours, (i.e. condom use), which require numerous cognitive and emotional processes to be undertaken in conjunction with a partner. Sexuality is age, status and gender graded (Holland *et al.*, 1992); it is also influenced by situational and social factors, which are often contrary to individual volitional control (Petosa and Jackson, 1991; Ingham and van Zessen, 1997). The reported inmates' intentions on practicing safe sex are not encouraging. 47.5% reported that they would use condoms regularly; only 24.8% reported that they would not have unprotected vaginal intercourse and 40.9% reported that they would not have unprotected anal intercourse. Under these circumstances, I am not able to say whether Greek inmates would really participate in safe sexual activities when released. Nevertheless, on the basis of the results reported in the present thesis, it would seem wise to include health education interventions as part of an entire rehabilitation programme for inmates, particularly before they are to be released. Preparing inmates for reintegration to the community should definitely include health education.

In addition, findings of the present study reinforce the importance of using theory-based models in conducting health education research in prisons. Inmates' health beliefs tested in this study, for the first time in Greece, provide a conceptual basis for planning and evaluating HIV preventive interventions in prisons. This study identified, among the constructs of specific Social Cognition Models, potential antecedents of inmates' intentions to adopt safe HIV sexual behaviours. Consequently, the present study offered an important basis for health educators to study these antecedents and make them productive constructs for inmates' benefit.

Summary

In this Chapter I presented data from a cross-sectional study in Greek prisons, related to the sexual behaviour of inmates, prior to incarceration, during imprisonment and intentions after release. Findings showed that inmates were involved in high-risk sexual practices and adopted HIV precautionary measures of questionable effectiveness. Inside prison, the level of sexual activity was negligible. Results on inmates' reported intentions for sexual practices and precautions after their release revealed a pattern of behaviour similar to that reported prior to imprisonment. A number of demographic, penal and theory-based variables were used as potential predictors of inmates' reported intentions to regularly use condoms when released. Among the variables used, the most significant predictor was inmates' sexual past behaviour. Additionally, a number of theory based variables also predicted future intentions. These variables stemmed from the Health Belief Model and the Locus of Control Theory. Those inmates feeling more susceptible to AIDS, perceiving AIDS as severe, perceiving more benefits and less barriers from using condoms, believing that health is controlled by ones own behaviour and less by chance were more likely to regularly use condoms in the future (when released). Value placed by inmates on their health was found to mediate the relationship between HLOC beliefs, HBM components, HIV perceived risk outside prison and intentions to use condom on a regular basis. Results were discussed in relation to previous international relevant research. Specific implications of the findings to health interventions in prison setting were proposed.

CHAPTER 10: Conclusions and recommendations

10.1 Introduction

Prisons in Greece, like anywhere in the world serve as places that keep those persons defined as "criminals" by specific socially acceptable mechanisms (i.e. courts). Nevertheless, certain aspects of Greek prisons' functioning are problematic. Greek prisons are overcrowded, keep a large number of foreign inmates, and there is serious lack of permanent medical staff employed (Greek Ministry of Justice, personal communication, June, 2001). The above factors have resulted in a very low level of hygiene and health care services which has been confirmed by national and international reports (Medicines Sans Frontieres, 2001; European Committee for the prevention of Tortures and Inhuman and Humiliating Treatment, 1994).

The extent of homosexual activity between prisoners that might place them at risk for HIV is not directly or indirectly (i.e. through STDs estimates) documented. On the other hand, the limited scientific epidemiological research in relation to AIDS in Greek prisons suggests that the real problem in Greek prisons (like world-wide) is drug use (Papaevangelou *et al.*, 1991; Kokkevi, *et al.*, 1992; 1993; Malliori, 1994; 1998a; 1998b; Marinopoulou and Tsiboukli, 1998). At the same time, there are limited services in prisons specifically designed for incarcerated drug users (Therapy Centre for Dependent Individuals, 2000), while the only Correctional Institution for the detoxification of IDU inmates is not yet operative.

Within this context, the current study constitutes the first effort at a national level to investigate inmates' HIV-related behaviour from a theoretical perspective. The basic idea of the present study was that some of the components of specific psychological theories

and models could contribute to our understanding of the factors related to HIV risk practices adopted by inmates. Additionally, I considered incarceration as only one part in the continuum of people's life. Inmates used to behaving in a specific way before they enter prison are likely to continue with such behaviours after their release. I therefore examined the impact of previous (outside prison) patterns of behaviour to future (when released) behaviour.

After adopting such an approach, the results of the current study showed that drug users constituted one third of the population of Greek inmates, while a close link between drug use and imprisonment was also established. There seemed to exist a high level of high risk injecting behaviour among imprisoned IDUs who continue to inject while incarcerated, with such behaviour being associated with frequency and length of imprisonment and other high-risk activities such as sexual promiscuity prior to imprisonment. Additionally, Greek inmates were highly knowledgeable on the basic facts of HIV transmission and prevention, but also had significant knowledge gaps. They generally held liberal attitudes towards AIDS-related issues. They worried about their general health and AIDS and perceived themselves as at risk for acquiring AIDS. Inmates had engaged in high risk sexual and drug use behaviours and adopted prevention measures of limited effectiveness prior to incarceration and expected to do the same when released. The most significant variable associated with inmates' intentions to practice safe sexual behaviour and drug use behaviour when released was their behaviour prior to incarceration and specific social cognitions, mostly derived from the HBM. Self perceived susceptibility to AIDS and intentions to avoid injecting in prison were the most significant components of the social cognition models to explain drug injection while in prison.

10.2 Methodological constraints

As this type of study was conducted for the first time in Greece, the need to develop new research tools or adjust the existing ones for the Greek environment was obvious. Internationally, there were available numerous instruments and methodologies from work previously done in prisons. Nevertheless, transferring this experience in Greece was not without constraints:

1. Given the lack of a research tradition in prisons and the fact that the current study was conducted due to the researcher's personal interest and need, rather than due to an order of the Ministry of Justice, the approval to conduct such research was delayed for about one year. Permission was granted only because myself, as the main researcher had a personal contact with a person in the Greek Ministry of Justice, who at that period, had the political strength and will to allow the research.
2. Resulting from the above constraints, the funding of the study was only achieved by my limited personal means. This had a direct impact on the study design. The first phase, although conducted at a national level, used a small and rather descriptive questionnaire. On the other hand, the second and most in depth phase of the study was restricted to only one institution, in Athens. The sample size in the second phase was small and definitely not representative of the Greek prison population, thus seriously questioning the generalisability of the results.
3. Given the lack of previous standardised questionnaires in the Greek language, in the current study, all the measures were used for the first time in Greece. This required the translation and adjustment of questionnaires into "Greek reality". Reliability tests performed on the scales showed that most of them (i.e. knowledge, attitudes, and perceived risk/concern, the MHLOC Scale) showed high internal consistency, at least acceptable to be used in comparisons. Others (i.e. the Health

Value scale, the components of the HBM, the subjective norms, normative beliefs and motivation to comply components of the TPB) were more problematic, especially when applied to subgroups of the population studied. More specifically, there seemed to be an ambiguity in the meaning and a significant overlap of the components of the HBM. For instance, the "susceptibility" and "benefits" questions might not have been defined as clearly as they should be, resulting in a measure of "Knowledge" instead of actual sense of susceptibility to AIDS and benefits from adopting drug-related precautions.

4. Although the purpose of the current study was not to test exclusively any one social cognition model, or even compare between particular models, the need to include most of the widely used variables from a range of models resulted in an extended body of questionnaires. Thus selection of the models to be investigated was mainly based on the applicability of the models (i.e. HBM) and the suggestions of other researchers to include as many variables as possible in studying health behaviour. Nevertheless, this selection resulted in exclusion from the present study of significant social cognitive constructs, like self-efficacy.

Generally speaking, although the components of the social cognition models used in the current study helped in our understanding of inmates' HIV-related intentions and behaviour from a theoretical perspective, the current study suffered from limitations, which are closely linked to the limitations posed by the use of social cognition models themselves. In short, these limitations were related to the measurement of the components of the models, the significant overlap between the components included in the models, and the inability of the models to consider other variables (i.e. self-predictions, moral norms, anticipated regret, self identity and past behaviour), which have been suggested as potential predictors of health behaviours. Additionally, due to the cross-sectional design of the study and - most importantly - the general underlying assumption

of the social cognition models that individuals are rational on their decisions regarding their health protection, the models did not help us to predict HIV-related actual behaviour. Even when inmates were asked on their intentions when released, these data were nothing more than self reports. As such, their value is limited in the sense that we will never know whether inmates - when released - will actually behave in the way they claimed to do. Notwithstanding the above limitations, the results of the current study showed that some of the components of the social cognition models plus past behaviour were significant indicators of the reported intentions of Greek inmates.

10.3 Main conclusions - Implications of research

Despite the above-mentioned constraints, the current study produced some significant results and important conclusions could be drawn:

1. From a methodological point of view, it seemed that some of the components of specific social cognition models could be used in future research among Greek prisoners, given the tremendous lack of theory-based research in Greek prisons.
2. Greek prisons are considered as riskier places than the outside community both in relation to health in general and in relation to AIDS specifically.
3. Drug use behaviour rather than sexual behaviour constitutes by far the most significant problem in Greek prisons.
4. Greek prisons could be considered as a modifier of inmates' risk behaviour towards the direction of enhancing the risk for HIV (for a specific subsample of IDUs), since Greek IDUs inject less but share more while incarcerated.
5. Greek inmates are fully aware of the HIV-related dangers they might be exposed to while incarcerated and have a clear view in favour of the adoption of necessary protection means required in order to diminish these dangers.

6. Nevertheless, the factors associated with inmates' drug-related risk behaviours inside prison are both situational and individual. An IDU's prison career and specific health-related cognitions play an important role in their HIV-related behavioural decisions while inside prison.
7. By seeing incarceration as just a part of inmates' life, being in prison has little impact on long term behavioural change – when released, behavioural patterns established before incarceration are likely to be re-established. This applies equally for both sexual behaviour and drug-use behaviour.

The results of this study and the conclusions drawn may have some implications for both the scientific research in Greek prisons and health policy within prisons:

1. As HIV-related knowledge, attitudes and cognitions are culturally defined, applied systematic psychological theory-based research could be expanded to cover the whole range of Greek prisons. Such research - using measures adjusted in Greek "reality" - would more precisely determine the health beliefs of inmates and identify many of the potential contributors to inmates' behaviour, especially drug-related behaviours.
2. Health policy in Greek prisons could be "individualised", as IDUs and non-IDUs inmates are different groups in terms of health cognitions and behaviour.
3. Especially for drug users, a realistic harm reduction approach could be adopted. Provision of clean needles or syringes to drug users in prisons could be considered as an option. Due to the lack of previous experience in Greek prisons, small-scale pilot projects could be initiated in order to identify the feasibility of such strategies in the Greek prison system - given the advantages of such initiatives, already verified in other prison systems outwith Greece.
4. Health education programmes could be applied to inmates on entrance to prison. These programmes could address issues like life in prison, the potential health

harms stemming from incarceration and the existing means of reducing these harms. The potential for using new technologies (e.g. computer-based health education and learning) as a means of communicating such issues could also be considered.

5. Finally, health education initiatives could target those inmates who are eligible for leave and those on release. These programmes could address issues relating to the use of condoms, particularly with casual partners and the inappropriateness of HIV prevention methods like selection of partners.

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APPENDIX 1

ΣΤΑΤΙΣΤΙΚΟ ΔΕΛΤΙΟ ΚΑΤΑΔΙΚΟΥ

Η στήλη αυτή συμπληρώνεται από τη Στατιστική Υπηρεσία

..... ΦΥΛΑΚΕΣ Αύξοντας αριθμός δελτίου

Για α άν.

Για γυναίκα

Επώνυμο || Επώνυμο

Όνομα || Όνομα

Είναι γραμμένος στο της φυλακής με τον αριθμό

Ο κατάδικος μεταφέρεται στις φυλακές μας στις 199... προερχόμενος από τις φυλακές

1. Γεννήθηκε σε της επαρχίας

2. Κατοικεί σε της επαρχίας

3. Ετών 1. Επάγγελμα

5. Οικογενειακή κατάσταση { Άγαμος Έγγαμος με τέκνα Έγγαμος χωρίς τέκνα Χήρος ή διαζευγμένος με τέκνα Χήρος ή διαζευγμένος χωρίς τέκνα	6. Εκπαίδευση { Αγράμματος Στοιχειώδης Μέση Τεχνική και Επαγγελματική Σχολή Ανώτατη	Απάντηση ή λέξη «ΝΑΙ»
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7. Είδος ποινής που εκτίει
 { Ημέρες
 Μήνες
 Έτη

8. Χρονολογία ενάρξεως εκτίσεως της ποινής 199
(είναι άσχετη με την ημερομηνία προφυλάκισης)

9. Πράξη για την οποία καταδικάστηκε

10. Δικαστήριο που επέβαλε την ποινή Αριθ. αποφάσεως έτος

11. Έμεινε προφυλακισμένος για ημέρες μήνες έτη

12. Μετά τη λήξη της ποινής θα παραμείνει στη φυλακή για ημέρες μήνες έτη

κατά το Νόμο (Να μνημονευθούν τα άρθρα 99-104 Π.Κ., προκειμένου για αναστολή εκτέλεσεως της ποινής, τα άρθρα 105-110 Π.Κ. ή άλλου Ειδικού Ποινικού Νόμου, προκειμένου για αναστολή του υπόλοιπου της ποινής ή οι λέξεις «λόγω αποδράσεως», προκειμένου για απόδραση).

13. Η ποινή που επιβλήθηκε αρχικά
 { Επιβλήθηκε κατά λόγω καταδίκης για την πράξη
 Μεταβάστηκε κατά λόγω
 Μεταβλήθηκε λόγω

14. Εξήλθε από τη φυλακή μας στις 199

15. Στο έτος αυτό κρατήθηκε στη φυλακή μας ημέρες
(Για όσους κρατήθηκαν ολόκληρο το έτος, αναγράφονται 365 ημέρες)

16. Λόγος εξόδου από τη φυλακή :
(Ως λόγος εξόδου θα αναγραφεί κάποιος από τους παρακάτω : «Έκτιση ποινής», όταν ο κατάδικος εξέτισε ολόκληρη την ποινή. Σε κάθε περίπτωση εξόδου ενωρίτερα, πρέπει να σημειώνεται ένας από τους παρακάτω λόγους : «Χάρη», «Αμνηστία», «Μεταγραφή ποινής», «Συμπλήρωση των 2/3 της ποινής», «Συμπλήρωση του 70ού έτους της ηλικίας», «Κίνδυνος υγείας», «Λόγω εργασίας», «Απόδραση», «Θάνατος», «Μεταγωγή σε άλλες φυλακές και ποινές λόγω ασφαλείας, ελλείψεως χώρου, οικογενειακών λόγων κλπ.», «Αδίκηση», «Προσωρινή απόλυση λόγω απείσεως» και άλλος λόγος με αναγραφή του σχετικού Νόμου και άρθρου.)

(Σχετικές οδηγίες υπάρχουν στη δεύτερη σελίδα)

ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ, ΕΡΕΥΝΑΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ



ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΥΠΟΥΡΓΕΙΟ ΠΑΙΔΕΙΑΣ, ΕΡΕΥΝΑΣ ΚΑΙ ΘΡΗΣΚΕΥΜΑΤΩΝ

ΕΠΙΧΕΙΡΗΣΙΑΚΟ ΠΡΟΓΡΑΜΜΑ
ΕΚΠΑΙΔΕΥΣΗ ΚΑΙ ΔΙΑ ΒΙΟΥ ΜΑΘΗΣΗ



ΕΠΙΧΕΙΡΗΣΙΑΚΟ ΠΡΟΓΡΑΜΜΑ
ΕΚΠΑΙΔΕΥΣΗ ΚΑΙ ΔΙΑ ΒΙΟΥ ΜΑΘΗΣΗ

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΚΡΑΤΟΥΜΕΝΩΝ

Ολες οι πληροφορίες που δίνονται αφορούν το όνομα είναι σχετικά
ΠΡΟΣΩΠΙΚΕΣ, ΕΜΠΙΣΤΕΥΤΙΚΕΣ & ΑΝΟΝΥΜΕΣ

APPENDIX 2

ΜΗ ΕΠΙΧΕΙΡΗΣΕΤΕ ΤΟ ΟΝΟΜΑ ΣΑΣ ΣΕ ΚΑΜΠΑ ΑΠΟ ΤΙΣ ΣΕΛΙΔΕΣ

Παρακαλούμε, διαβάστε προσεκτικά τις οδηγίες, πριν απαντήσετε
στις ερωτήσεις και μη διστάσετε να ζητήσετε βοήθεια, αν
αντιληφθείτε κάποια τεχνική δυσκολία.

ΕΘΝΙΚΗ ΣΧΟΛΗ ΔΗΜΟΣΙΑΣ ΥΓΕΙΑΣ
ΥΓΙΟΝΟΜΙΚΗ ΣΧΟΛΗ ΑΘΗΝΩΝ 1929-1994



NATIONAL SCHOOL OF PUBLIC HEALTH
ATHENS SCHOOL OF PUBLIC HEALTH 1929-1994

ΤΟΜΕΑΣ ΚΟΙΝΩΝΙΟΛΟΓΙΑΣ
Καθ. Δ. Αγραφιώτης



DEPARTMENT OF SOCIOLOGY
Prof. D. Agrafiotis

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΚΡΑΤΟΥΜΕΝΩΝ

Όλες οι πληροφορίες που δίνονται σ' αυτά τα έντυπα είναι αυστηρά
ΠΡΟΣΩΠΙΚΕΣ, ΕΜΠΙΣΤΕΥΤΙΚΕΣ & ΑΝΩΝΥΜΕΣ

ΜΗ ΓΡΑΦΕΤΕ ΤΟ ΟΝΟΜΑ ΣΑΣ ΣΕ ΚΑΜΙΑ ΑΠΟ ΤΙΣ ΣΕΛΙΔΕΣ

Παρακαλούμε, διαβάστε προσεκτικά τις οδηγίες πριν απαντήσετε
στις ερωτήσεις και μη διστάσετε να ζητήσετε βοήθεια, αν
αντιμετωπίσετε κάποιες δυσκολίες.

ΑΝΩΝΥΜΟ ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

Παρακαλούμε, τσεκάρτε (✓) το τετραγωνάκι δίπλα στην απάντηση που σε αντιπροσωπεύει. Παρακαλούμε απαντήστε ΟΛΕΣ τις ερωτήσεις

1. Πόσων χρονών είστε;
2. Τώρα είστε: ΥΠΟΔΙΚΟΣ ΚΑΤΑΔΙΚΟΣ ΥΠΟΔΙΚΟΚΑΤΑΔΙΚΟΣ
- Εάν είστε ΥΠΟΔΙΚΟΣ ή ΥΠΟΔΙΚΟΚΑΤΑΔΙΚΟΣ, πηγαίετε στην Ερώτηση 3
- 2α) Εάν είστε ΚΑΤΑΔΙΚΟΣ, ποιά είναι η διάρκεια της τωρινής σας ποινής;
- 2β). Εάν είστε ΚΑΤΑΔΙΚΟΣ, πότε (ποιά χρονιά) άρχισε η τωρινή σας ποινή;
3. Για ποιά αδίκημα είστε τώρα στη φυλακή;
4. Πόσες ποινές φυλάκισης έχετε εκτείσει στο παρελθόν; (εκτός από την τωρινή)
- | | |
|------------|--------------------------|
| καμμία | <input type="checkbox"/> |
| μία | <input type="checkbox"/> |
| 2- 4 | <input type="checkbox"/> |
| πάνω από 5 | <input type="checkbox"/> |
5. Πόσος είναι **συνολικά** ο χρόνος που έχετε περάσει στη φυλακή;
- | | |
|----------------------|--------------------------|
| Λιγότερο από 3 μήνες | <input type="checkbox"/> |
| 3 - 6 μήνες | <input type="checkbox"/> |
| 7 - 12 μήνες | <input type="checkbox"/> |
| 1 - 3 χρόνια | <input type="checkbox"/> |
| 3 - 7 χρόνια | <input type="checkbox"/> |
| 7 - 12 χρόνια | <input type="checkbox"/> |
| πάνω από 12 χρόνια | <input type="checkbox"/> |
6. Έχετε στο παρελθόν ποτέ **κατηγορηθεί** για παράβαση του Νόμου περί Ναρκωτικών; ΝΑΙ ΟΧΙ
7. Έχετε στο παρελθόν ποτέ **καταδικαστεί** για παράβαση του Νόμου περί Ναρκωτικών; ΝΑΙ ΟΧΙ
8. Ποιά χρονιά κάνατε **για πρώτη φορά** ενδοφλέβια χρήση ναρκωτικών (ένεση);
- | | |
|----------------------|--------------------------|
| ΠΟΤΕ | <input type="checkbox"/> |
| πριν από το 1982 | <input type="checkbox"/> |
| 1983 - 1985 | <input type="checkbox"/> |
| 1986 - 1988 | <input type="checkbox"/> |
| 1989 - 1991 | <input type="checkbox"/> |
| Από το 1992 και μετά | <input type="checkbox"/> |
9. Ποιά χρονιά κάνατε **για τελευταία φορά** ενδοφλέβια χρήση ναρκωτικών (ένεση);
- | | |
|----------------------|--------------------------|
| ΠΟΤΕ | <input type="checkbox"/> |
| πριν από το 1982 | <input type="checkbox"/> |
| 1983 - 1985 | <input type="checkbox"/> |
| 1986 - 1988 | <input type="checkbox"/> |
| 1989 - 1991 | <input type="checkbox"/> |
| Από το 1992 και μετά | <input type="checkbox"/> |

ΑΝΩΝΥΜΟ ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

10. Ποιά χρονιά κάνατε για πρώτη φορά κοινή χρήση εργαλείων για ενδοφλέβια χρήση ναρκωτικών; ΠΟΤΕ πριν από το 1982 1983 - 1985 1986 - 1988 1989 - 1991 Από το 1992 και μετά

11. Ποιά χρονιά κάνατε για τελευταία φορά κοινή χρήση εργαλείων για ενδοφλέβια χρήση ναρκωτικών; ΠΟΤΕ πριν από το 1982 1983 - 1985 1986 - 1988 1989 - 1991 Από το 1992 και μετά

12. Έχετε κάνει ποτέ ενδοφλέβια χρήση ναρκωτικών μέσα στη φυλακή; ΝΑΙ ΟΧΙ

13. Έχετε ποτέ μοιραστεί βελόνες/σύριγγες ('σέα') για να κάνετε κοινή χρήση ναρκωτικών με άλλους, μέσα στη φυλακή; ΝΑΙ ΟΧΙ

14. Έχετε κάνει ποτέ εξέταση αίματος για AIDS, έξω από τη φυλακή; ΝΑΙ ΟΧΙ

15. Έχετε ποτέ νοσηλευτεί για κάποιο αφροδίσιο νόσημα (π.χ. σύφιλη, βλεννόρροια) τα τελευταία 10 χρόνια; ΝΑΙ ΟΧΙ

16. Με πόσους άνδρες (εκτός από το σύζυγό σας ή το μόνιμο σύντροφό σας) είχατε σεξουαλική επαφή, τους τελευταίους 12 μήνες, πριν την τωρινή σας φυλάκιση; κανένα 1 2 - 5 6 - 10 πάνω από 11

17. Έχετε ποτέ πληρωθεί για να έχετε σεξουαλική επαφή τα τελευταία 10 χρόνια; ΝΑΙ ΟΧΙ

18. Είχατε ποτέ σεξουαλικές σχέσεις με συγκρατούμενό σας μέσα στη φυλακή; ΝΑΙ ΟΧΙ

Ευχαριστούμε πολύ που συμπληρώσατε αυτό το ερωτηματολόγιο. Τώρα, βάλτε το ερωτηματολόγιο στο φάκελο και σφραγίστε τον.

ΠΟΤΕ πριν από το 1982 1983 - 1985 1986 - 1988 1989 - 1991 Από το 1992 και μετά

ANONYMOUS QUESTIONNAIRE

Please tick (✓) the box beside the answer that applies to you.

1. How old are you? years

2. You are a:

- REMAND
PRISONER
CONVICT PRISONER
BOTH

2a. If you are a CONVICT prisoner, how long is your present sentence?

2a. If you are a CONVICT prisoner, when (which year) did your present sentence start? ...

3. What is the offence for which you serve your current sentence?

4. How many times have you been inside before this sentence?

- never
once
2-4 times
more than 5 times

5. What is the **total length of time**, you have been imprisoned?

- less than 3 months
3-6 months
7-12 months
1-3 years
3-7 years
7-12 years
more than 12 years

6. Have you ever been **charged** with a drug-related offence in the past?

- YES NO

7. Have you ever been **sentenced** for a drugs-related offence in the past?

- YES NO

8. In which year did you first inject drugs?

- NEVER INJECTED
before 1982
1983-1985
1986-1988
1989-1991
1992 or later

9. In which year did you last inject drugs?

- NEVER INJECTED
- before 1982
- 1983-1985
- 1986-1988
- 1989-1991
- 1992 or later

10. In which year did you first share needles/works with someone else?

- NEVER SHARED
- before 1982
- 1983-1985
- 1986-1988
- 1989-1991
- 1992 or later

11. In which year did you last share needles/works with someone else?

- NEVER SHARED
- before 1982
- 1983-1985
- 1986-1988
- 1989-1991
- 1992 or later

12. Have you ever injected while in prison?

- YES
- NO

13. Have you ever shared needles/works with someone else while in prison?

- YES
- NO

14. Have you ever taken blood test for HIV?

- YES
- NO

15. Have you ever treated for and sexually transmitted disease?

- YES
- NO

16. In the last year before this sentence, how many women (except your wife or your permanent partner) did you have sex with?

- none
- 1
- 2 - 5
- 6 - 10
- 11 or more

17. In the last year before this sentence, how many men did you have sex with?

none

1

2 - 5

6 - 10

11 or more

18. Have you ever paid money for sex, during the last 10 years?

YES NO

19. Have you ever had anal sex while in prison?

YES NO

Thank you for answering this questionnaire.

Now please put it in the envelope provided and seal it.

ΕΠΙΧΕΙΡΗΣΙΑΚΟ ΠΡΟΓΡΑΜΜΑ
ΠΡΟΣΧΕΔΙΟ ΚΑΤΑΧΩΡΗΣΗΣ
ΕΠΙΧΕΙΡΗΣΙΑΚΩΝ ΠΡΟΓΡΑΜΜΑΤΩΝ
ΕΠΙΧΕΙΡΗΣΙΑΚΩΝ ΠΡΟΓΡΑΜΜΑΤΩΝ
ΕΠΙΧΕΙΡΗΣΙΑΚΩΝ ΠΡΟΓΡΑΜΜΑΤΩΝ

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΚΡΑΤΟΜΕΣΩΝ

Τίστε οι 10 εργαζόμενοι της επιχείρησης που εργάζονται στην επιχείρηση
ΠΡΟΣΩΠΙΚΕΣ, ΕΜΠΕΙΡΕΥΣΗ ΚΑΙ ΕΚΠΑΙΔΕΥΣΗ

APPENDIX 3

ΜΗ ΠΑΡΕΧΕΤΕ ΤΟ ΟΝΟΜΑ ΤΩΝ ΕΡΓΑΖΟΜΕΝΩΝ ΚΑΙ ΤΟ ΕΠΙΧΕΙΡΗΣΙΑΚΟ

Παρακαλούμε, διαβάστε προσεκτικά το ερωτηματολόγιο και απαντήστε
στις ερωτήσεις με μηδενική ή 100% απάντηση, ανάλογα με
αυτή τη σειρά, στην κλίμακα που φαίνεται.

ΕΘΝΙΚΗ ΣΧΟΛΗ ΔΗΜΟΣΙΑΣ ΥΓΕΙΑΣ
ΥΓΙΟΝΟΜΙΚΗ ΣΧΟΛΗ ΑΘΗΝΩΝ 1929-1994



NATIONAL SCHOOL OF PUBLIC HEALTH
ATHENS SCHOOL OF PUBLIC HEALTH 1929-1994

ΤΟΜΕΑΣ ΚΟΙΝΩΝΙΟΛΟΓΙΑΣ
Καθ. Δ. Αγραφιώτης



DEPARTMENT OF SOCIOLOGY
Prof. D. Agrafiotis

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ ΚΡΑΤΟΥΜΕΝΩΝ

Όλες οι πληροφορίες που δίνονται σ' αυτά τα έντυπα είναι αυστηρά
ΠΡΟΣΩΠΙΚΕΣ, ΕΜΠΙΣΤΕΥΤΙΚΕΣ & ΑΝΩΝΥΜΕΣ

ΜΗ ΓΡΑΦΕΤΕ ΤΟ ΟΝΟΜΑ ΣΑΣ ΣΕ ΚΑΜΙΑ ΑΠΟ ΤΙΣ ΣΕΛΙΔΕΣ

Παρακαλούμε, διαβάστε προσεκτικά τις οδηγίες πριν απαντήσετε
στις ερωτήσεις και μη διστάσετε να ζητήσετε βοήθεια, αν
αντιμετωπίσετε κάποιες δυσκολίες.

Ακολουθούν ορισμένες ερωτήσεις για να συγκεντρώσουμε κάποιες πληροφορίες για εσάς. Παρακαλούμε απαντήστε όλες τις ερωτήσεις, τσεκάροντας (✓) το τετραγωνάκι στην απάντηση που σας αντιπροσωπεύει. Αγνοήστε τους αριθμούς δίπλα από τα τετραγωνάκια.

A. 1 Πόσων ετών είστε;

A. 2 Ποιά είναι η οικογενειακή σας κατάσταση;

- Παντρεμένος 1
- Ανύπαντρος 2
- Συζώ (χωρίς γάμο) 3
- Χωρισμένος (με διαζύγιο) 4
- Χωρισμένος (χωρίς διαζύγιο) 5
- Χήρος 6

A. 3 Ποιά είναι η μόρφωσή σας;

- Δεν έχω πάει σχολείο 1
- Έως 4η Δημοτικού - Τελείωσα το Δημοτικό 2
- Έως 3η Τάξη Γυμνασίου (παλαιού τύπου)- Επαγγελμ. Σχολή 3
- Τελείωσα Γυμνάσιο (παλαιού τύπου) - Λύκειο - Μέση Σχολή 4
- Ανώτερη Μόρφωση (ΤΕΙ, ΚΑΤΕΕ, κ.λ.π.) 5
- Ανώτατη Μόρφωση (Πανεπιστήμιο) 6

A. 4 Για πόσο διάστημα έχετε καταδικαστεί;

- Δεν έχω δικαστεί ακόμα, είμαι ΥΠΟΔΙΚΟΣ 1
- Λιγότερο από 3 μήνες 2
- 3 - 6 μήνες 3
- 7 - 11 μήνες 4
- 1 - 3 χρόνια 5
- πάνω από 3 χρόνια 6

A. 5 Πόσο διάστημα είστε τώρα μέσα στη φυλακή;

A.6 Για ποιο αδίκημα είστε τώρα στη φυλακή;

A.7 Πόσες ποινές φυλάκισης έχετε εκτίσει στο παρελθόν (εκτός από την τωρινή);

- καμμία 1
- 1 2
- 2 - 4 3
- πάνω από 5 4

A. 8 Έχετε ποτέ στο παρελθόν κατηγορηθεί για παράβαση του Νόμου περί Ναρκωτικών;

- ΝΑΙ 1 ΟΧΙ 2

A.9 Έχετε ποτέ στο παρελθόν καταδικαστεί για παράβαση του Νόμου περί Ναρκωτικών;
ΝΑΙ □¹ ΟΧΙ □²

A. 10 Έχει ο φόβος του AIDS επηρεάσει τη γενική κοινωνική σας συμπεριφορά; (π.χ. τις καθημερινές κοινωνικές επαφές σας)
ΝΑΙ □¹ ΟΧΙ □²

A. 10.1 Αν ΝΑΙ, δώστε ένα παράδειγμα.

A. 11 Έχει ο φόβος του AIDS επηρεάσει τη σεξουαλική συμπεριφορά σας;
ΝΑΙ □¹ ΟΧΙ □²

A. 11.1 Αν ΝΑΙ, με ποιόν τρόπο; Δώστε ένα παράδειγμα.

A. 12 Έχει ο φόβος του AIDS επηρεάσει τη συμπεριφορά σας όσον αφορά στη χρήση ναρκωτικών;
ΝΑΙ □¹ ΟΧΙ □² ΔΕΝ ΜΕ ΑΦΟΡΑ □³

A. 12.1 Αν ΝΑΙ, με ποιό τρόπο; Δώστε ένα παράδειγμα.

A. 13 Έχετε κάνει ποτέ εξέταση αίματος για AIDS έξω από τη φυλακή;
ΝΑΙ □¹ ΟΧΙ □²

A. 13.1 Αν ΝΑΙ, το αποτέλεσμα ήταν:
Θετικό □¹ Αρνητικό □²
Δεν το γνωρίζω □³ Δεν απαντώ □⁴

A. 14 Έχετε ποτέ νοσηλευτεί για κάποιο αφροδίσιο νόσημα (π.χ. σύφιλη, βλεννόρροια) τα τελευταία 10 χρόνια;
ΝΑΙ □¹ ΟΧΙ □²

ΠΑΡΑΚΑΛΟΥΜΕ ΠΡΟΧΩΡΕΙΣΤΕ ΣΤΟ ΤΜΗΜΑ Β

Παρακαλούμε, απαντήστε την παρακάτω ερώτηση τσεκάροντας (✓) το τετραγωνάκι □ στην απάντηση που σας αντιπροσωπεύει. Αγνοήστε τους αριθμούς δίπλα από τα τετραγωνάκια.

B. 1 Πόσα νομίζετε ότι ξέρετε για το AIDS;

ΣΧΕΔΟΝ ΤΙΠΟΤΑ □¹ ΛΙΓΑ □² ΑΡΚΕΤΑ □³ ΠΟΛΛΑ □⁴ ΠΑΡΑ ΠΟΛΛΑ □⁵

Ακολουθούν κάποιες δηλώσεις. Παρακαλούμε, διαβάστε καθεμιά από αυτές προσεκτικά. Τσεκάρετε με ένα σημάδι (✓) στο αντίστοιχο τετραγωνάκι □, αν νομίζετε ότι η δήλωση είναι ΑΛΗΘΗΣ ή ΨΕΥΔΗΣ. Αν όμως δεν είστε σίγουροι για το αν η δήλωση είναι "αληθής" ή "ψευδής", τότε τσεκάρετε (✓) στο τετραγωνάκι ΔΕΝ ΞΕΡΩ. Αγνοήστε τους αριθμούς δίπλα από τα τετραγωνάκια.

Table with 3 columns: ΑΛΗΘΗΣ, ΨΕΥΔΗΣ, ΔΕΝ ΞΕΡΩ. Rows B.2 to B.9 with corresponding statements and checkboxes.

A.9 Έχετε ποτέ στο παρελθόν καταδικαστεί για παράβαση του Νόμου περί Ναρκωτικών;

ΝΑΙ ¹ ΟΧΙ ²

A. 10 Έχει ο φόβος του AIDS επηρεάσει τη γενική κοινωνική σας συμπεριφορά; (π.χ. τις καθημερινές κοινωνικές επαφές σας)

ΝΑΙ ¹ ΟΧΙ ²

A. 10.1 Αν ΝΑΙ, δώστε ένα παράδειγμα:

A. 11 Έχει ο φόβος του AIDS επηρεάσει τη σεξουαλική συμπεριφορά σας;

ΝΑΙ ¹ ΟΧΙ ²

A. 11.1 Αν ΝΑΙ, με ποιόν τρόπο; Δώστε ένα παράδειγμα:

A. 12 Έχει ο φόβος του AIDS επηρεάσει τη συμπεριφορά σας όσον αφορά στη χρήση ναρκωτικών;

ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΜΕ ΑΦΟΡΑ ³

A. 12.1 Αν ΝΑΙ, με ποιό τρόπο; Δώστε ένα παράδειγμα:

A. 13 Έχετε κάνει ποτέ εξέταση αίματος για AIDS έξω από τη φυλακή;

ΝΑΙ ¹ ΟΧΙ ²

A. 13.1 Αν ΝΑΙ, το αποτέλεσμα ήταν:

Θετικό ¹ Αρνητικό ²
Δεν το γνωρίζω ³ Δεν απαντώ ⁴

A. 14 Έχετε ποτέ νοσηλευτεί για κάποιο αφροδίσιο νόσημα (π.χ. σύφιλη, βλεννόρροια) τα τελευταία 10 χρόνια;

ΝΑΙ ¹ ΟΧΙ ²

ΠΑΡΑΚΑΛΟΥΜΕ ΠΡΟΧΩΡΕΙΣΤΕ ΣΤΟ ΤΜΗΜΑ Β

Παρακαλούμε, απαντήστε την παρακάτω ερώτηση τσεκάροντας (✓) το τετραγωνάκι στην απάντηση που σας αντιπροσωπεύει. Αγνοήστε τους αριθμούς δίπλα από τα τετραγωνάκια.

B. 1 Πόσα νομίζετε ότι ξέρετε για το AIDS;

ΣΧΕΔΟΝ ΤΙΠΟΤΑ ¹ ΛΙΓΑ ² ΑΡΚΕΤΑ ³ ΠΟΛΛΑ ⁴ ΠΑΡΑ ΠΟΛΛΑ ⁵

Ακολουθούν κάποιες δηλώσεις. Παρακαλούμε, διαβάστε καθεμιά από αυτές προσεκτικά. Τσεκάρτε με ένα σημάδι (✓) στο αντίστοιχο τετραγωνάκι , αν νομίζετε ότι η δήλωση είναι ΑΛΗΘΗΣ ή ΨΕΥΔΗΣ. Αν όμως δεν είστε σίγουροι για το αν η δήλωση είναι "αληθής" ή "ψευδής", τότε τσεκάρτε (✓) στο τετραγωνάκι ΔΕΝ ΞΕΡΩ. Αγνοήστε τους αριθμούς δίπλα από τα τετραγωνάκια.

	ΑΛΗΘΗΣ	ΨΕΥΔΗΣ	ΔΕΝ ΞΕΡΩ
B.2 Οι χρήστες ναρκωτικών κινδυνεύουν να μολυνθούν από το AIDS αν μοιράζονται βελόνες / σύριγγες, αλλά δεν κινδυνεύουν αν μοιράζονται άλλα σύνεργα (π.χ. κουταλάκια).	<input type="checkbox"/> ¹	<input type="checkbox"/> ²	<input type="checkbox"/> ³
B.3 Μπορείς να μειώσεις τον κίνδυνο να μολυνθείς από το AIDS, αν χρησιμοποιείς προφυλακτικό σε κάθε σεξουαλική σου επαφή.	<input type="checkbox"/> ¹	<input type="checkbox"/> ²	<input type="checkbox"/> ³
B.4 Αν σε δαγκώσει κάποιος με AIDS, σίγουρα θα μολυνθείς και εσύ.	<input type="checkbox"/> ¹	<input type="checkbox"/> ²	<input type="checkbox"/> ³
B.5 Οι άνθρωποι μπορούν αποτελεσματικά να προστατευτούν από το AIDS, αν έχουν ερωτικές σχέσεις μόνο με άτομα που φαίνονται υγιή και σε καλή κατάσταση.	<input type="checkbox"/> ¹	<input type="checkbox"/> ²	<input type="checkbox"/> ³
B.6 Κινδυνεύεις πολύ να μολυνθείς από AIDS, αν κάποιος που έχει προηγουμένως μολυνθεί, σε φτύσει ή κάνει έμετο πάνω σου.	<input type="checkbox"/> ¹	<input type="checkbox"/> ²	<input type="checkbox"/> ³
B.7 Το να έχει κανείς κολπική αντί για πρωκτική σεξουαλική επαφή είναι ένας αποτελεσματικός τρόπος πρόληψης της μετάδοσης του AIDS.	<input type="checkbox"/> ¹	<input type="checkbox"/> ²	<input type="checkbox"/> ³
B.8 Κινδυνεύεις πολύ να μολυνθείς από AIDS, αν κάποιος που έχει προηγουμένως μολυνθεί, ουρήσει ή αφοδεύσει πάνω σου.	<input type="checkbox"/> ¹	<input type="checkbox"/> ²	<input type="checkbox"/> ³
B.9 Αν φιλήσεις στο στόμα κάποιον/-α που έχει μολυνθεί από AIDS, είναι πολύ πιθανό να μολυνθείς και εσύ.	<input type="checkbox"/> ¹	<input type="checkbox"/> ²	<input type="checkbox"/> ³

ΑΛΗΘΗΣ ΨΕΥΔΗΣ ΔΕΝ ΞΕΡΩ

- B.10** Το AIDS μπορεί να μεταδοθεί μεταξύ ανδρών που έχουν πρωκτική σεξουαλική επαφή. 1 2 3
- B.11** Ένας άνδρας κινδυνεύει να μολυνθεί από AIDS έχοντας κολπική σεξουαλική επαφή με μια μολυσμένη γυναίκα. 1 2 3
- B.12** Οι χρήστες ενδοφλέβιων ναρκωτικών μπορούν να μειώσουν τις πιθανότητες να μολυνθούν από το AIDS μουσκεύοντας τα 'σέα' σε ένα απολυμαντικό υγρό πριν τα ξαναχρησιμοποιήσουν. 1 2 3
- B.13** Μπορείς να μειώσεις την πιθανότητα να μολυνθείς από AIDS ελαττώνοντας τους ερωτικούς σου συντρόφους. 1 2 3
- B.14** Ένας άνδρας δεν κινδυνεύει να μολυνθεί από AIDS, αν έχει πρωκτική σεξουαλική επαφή με μια γυναίκα. 1 2 3
- B.15** Το να έχει κανείς σεξουαλική επαφή μόνο με άτομα του αντίθετου φύλου, είναι ένας αποτελεσματικός τρόπος προστασίας από το AIDS. 1 2 3
- B.16** Είναι μάλλον απίθανο να μολυνθείς από AIDS, αν κάποιος με AIDS φταρνιστεί ή βήξει δίπλα σου. 1 2 3
- B.17** Οι χρήστες ενδοφλέβιων ναρκωτικών μπορούν να μειώσουν τον κίνδυνο μόλυνσης από AIDS κρατώντας 'το σέο' για αποκλειστικά δική τους χρήση. 1 2 3
- B.18** Είναι πολύ πιθανό ένα άτομο να μολυνθεί από AIDS τρώγοντας φαγητό που έχει ετοιμάσει κάποιος που έχει AIDS. 1 2 3
- B.19** Το AIDS δεν μπορεί να μεταδοθεί ανάμεσα σε άτομα που περιστασιακά μόνο μοιράζονται βελόνες και σύριγγες. 1 2 3
- B.20** Κινδυνεύεις πολύ να μολυνθείς από AIDS αν καβγαδίσεις με κάποιον που έχει AIDS. 1 2 3

ΠΑΡΑΚΑΛΟΥΜΕ ΠΡΟΧΩΡΙΣΤΕ ΣΤΟ ΤΜΗΜΑ Γ

ΤΜΗΜΑ Γ

Παρακαλούμε, διαβάστε τις παρακάτω δηλώσεις προσεκτικά. Δείξτε με ένα σημάδι (✓) στο αντίστοιχο τετραγωνάκι πόσο συμφωνείτε ή διαφωνείτε με καθεμιά δήλωση. Αγνοήστε τους αριθμούς δίπλα στα τετραγωνάκια.

ΣΥΜΦΩΝΩ ΑΠΟΛΥΤΑ ΣΥΜΦΩΝΩ ΔΕΝ ΕΙΜΑΙ ΣΙΓΟΥΡΟΣ ΔΙΑΦΩΝΩ ΔΙΑΦΩΝΩ ΡΙΖΙΚΑ

- Γ.1** Όλοι οι άνθρωποι με AIDS πρέπει να απομονωθούν, ώσπου να βρεθεί κάποιος τρόπος να προστατεύονται οι υπόλοιποι. 1 2 3 4 5
- Γ.2** Αν ένας φίλος μου/μια φίλη μου είχε AIDS, δεν θα φοβόμουν να συνεχίσω την καθημερινή επαφή μαζί του/της. 5 4 3 2 1
- Γ.3** Η υποχρεωτική εξέταση αίματος όλων για AIDS είναι ένας τρόπος να ελεγχθεί η μετάδοση της ασθένειας. 1 2 3 4 5
- Γ.4** Θα ήμουν ευχαριστημένος αν φτιαχνόταν στη γειτονιά μου ένας ξενώνας για άτομα με AIDS. 5 4 3 2 1
- Γ.5** Δε θα είχα καμιά αντίρρηση να επισκεφτώ ένα γιατρό ο οποίος εξετάζει τακτικά ασθενείς με AIDS. 5 4 3 2 1
- Γ.6** Όσοι έχουν AIDS δεν θα πρέπει να τρώνε σε εστιατόρια και να χρησιμοποιούν δημόσιες τουαλέτες. 1 2 3 4 5
- Γ.7** Όσοι μολύνθηκαν από AIDS εξαιτίας της χρήσης ναρκωτικών δεν αξίζουν την ιατρική φροντίδα. 1 2 3 4 5
- Γ.8** Στους χρήστες ενδοφλέβιων ναρκωτικών θα πρέπει να παρέχονται δωρεάν βελόνες και σύριγγες. 5 4 3 2 1
- Γ.9** Όσοι μολύνθηκαν από AIDS εξαιτίας ομοφυλοφιλικών σχέσεων δεν αξίζουν την ιατρική φροντίδα. 1 2 3 4 5
- Γ.10** Ο μόνος τρόπος για να ελεγχθεί το AIDS είναι να κηρυχθούν παράνομες όλες οι ομοφυλοφιλικές σχέσεις. 1 2 3 4 5
- Γ.11** Οι χρήστες ενδοφλέβιων ναρκωτικών πρέπει να προμηθεύονται δωρεάν προφυλακτικά. 5 4 3 2 1
- Γ.12** Οι ομοφυλόφιλοι πρέπει να προμηθεύονται δωρεάν προφυλακτικά. 5 4 3 2 1
- Γ.13** Οι κρατούμενοι πρέπει να έχουν το δικαίωμα άρνησης να μένουν στο ίδιο κελί με κάποιον που έχει AIDS. 5 4 3 2 1

ΓΥΡΙΣΤΕ ΣΕΛΙΔΑ 23

ΣΥΜΦΩΝΩ
ΑΠΟΛΥΤΑ

ΣΥΜΦΩΝΩ

ΔΕΝ ΕΙΜΑΙ
ΣΙΓΟΥΡΟΣ

ΔΙΑΦΩΝΩ

ΔΙΑΦΩΝΩ
ΡΙΖΙΚΑ

Γ.14 Όσοι προέρχονται από χώρες με υψηλό ποσοστό AIDS, θα πρέπει να εξετάζονται υποχρεωτικά πριν μπου στην Ελλάδα.

1 2 3 4 5

Γ.15 Τα παιδιά με AIDS θα πρέπει να επιτρέπεται να παρακολουθούν το σχολείο μαζί με τα άλλα παιδιά.

5 4 3 2 1

Γ.16 Αν μάθαινα ότι κάποιος συνάδελφός μου στη δουλειά είχε AIDS, δε θα είχα καμιά αντίρρηση να μοιραστώ μαζί του τους εργασιές.

5 4 3 2 1

ΠΑΡΑΚΑΛΟΥΜΕ ΠΡΟΧΩΡΕΙΣΤΕ ΣΤΟ ΤΜΗΜΑ Δ

Παρακαλούμε, διαβάστε τις παρακάτω ερωτήσεις προσεκτικά και απαντήστε τσεκάροντας (✓) το τετραγωνάκι στην απάντηση που σας αντιπροσωπεύει. Αγνοήστε τους αριθμούς δίπλα από κάθε τετραγωνάκι.

Δ.1 Πόσο ανησυχείτε για την υγεία σας;

ΠΑΡΑ ΠΟΛΥ ΠΟΛΥ ΜΕΤΡΙΑ ΛΙΓΟ ΚΑΘΟΛΟΥ

5 4 3 2 1

Δ.2 Σκεφτείτε τη ζωή σας ΠΡΙΝ ΜΠΕΙΤΕ ΣΤΗ ΦΥΛΑΚΗ. Πόσο σας απασχολούσε το AIDS, ως ένα πρόβλημα για την υγείας σας;

ΚΑΘΟΛΟΥ ΛΙΓΟ ΜΕΤΡΙΑ ΠΟΛΥ ΠΑΡΑ ΠΟΛΥ

1 2 3 4 5

Δ.3 Πόσο επικίνδυνο πιστεύετε ότι είναι για ένα συνηθισμένο άνθρωπο να μολυνθεί από AIDS;

ΚΑΘΟΛΟΥ ΛΙΓΟ ΜΕΤΡΙΑ ΠΟΛΥ ΠΑΡΑ ΠΟΛΥ

ΕΠΙΚΙΝΔΥΝΟ ΕΠΙΚΙΝΔΥΝΟ ΕΠΙΚΙΝΔΥΝΟ ΕΠΙΚΙΝΔΥΝΟ ΕΠΙΚΙΝΔΥΝΟ

1 2 3 4 5

Δ.4 Αν σκεφτείτε τη ζωή σας ΠΡΙΝ ΜΠΕΙΤΕ ΣΤΗ ΦΥΛΑΚΗ, πόσο κινδυνεύετε να μολυνθείτε από AIDS;

ΚΑΘΟΛΟΥ ΛΙΓΟ ΜΕΤΡΙΑ ΠΟΛΥ ΠΑΡΑ ΠΟΛΥ

1 2 3 4 5

Δ.5 Σκεφτείτε τη ζωή σας ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ. Πόσο σας απασχολεί το AIDS ως ένα πρόβλημα για την υγείας σας;

ΚΑΘΟΛΟΥ ΛΙΓΟ ΜΕΤΡΙΑ ΠΟΛΥ ΠΑΡΑ ΠΟΛΥ

1 2 3 4 5

Δ.6 Πόσο επικίνδυνο πιστεύετε ότι είναι για ένα συνηθισμένο κρατούμενο να μολυνθεί από AIDS, όσο βρίσκεται στη φυλακή;

ΚΑΘΟΛΟΥ ΛΙΓΟ ΜΕΤΡΙΑ ΠΟΛΥ ΠΑΡΑ ΠΟΛΥ

ΕΠΙΚΙΝΔΥΝΟ ΕΠΙΚΙΝΔΥΝΟ ΕΠΙΚΙΝΔΥΝΟ ΕΠΙΚΙΝΔΥΝΟ ΕΠΙΚΙΝΔΥΝΟ

1 2 3 4 5

Δ.7 Αν σκεφτείτε τη ζωή σας ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ, πόσο κινδυνεύετε να μολυνθείτε από AIDS;

ΚΑΘΟΛΟΥ ΛΙΓΟ ΜΕΤΡΙΑ ΠΟΛΥ ΠΑΡΑ ΠΟΛΥ

1 2 3 4 5

ΠΑΡΑΚΑΛΟΥΜΕ ΠΡΟΧΩΡΕΙΣΤΕ ΣΤΟ ΤΜΗΜΑ Ε

Παρακαλούμε, διαβάστε τις παρακάτω δηλώσεις προσεκτικά. Δείξτε με ένα σημάδι (✓) στο αντίστοιχο τετραγωνάκι □ πόσο συμφωνείτε ή διαφωνείτε με καθεμιά δήλωση. Αγνοήστε τους αριθμούς δίπλα από τα τετραγωνάκια.

	ΣΥΜΦΩΝΩ ΑΠΟΛΥΤΑ	ΣΥΜΦΩΝΩ	ΔΕΝ ΕΙΜΑΙ ΣΙΓΟΥΡΟΣ	ΔΙΑΦΩΝΩ	ΔΙΑΦΩΝΩ ΡΙΖΙΚΑ
E.1 Οι πιθανότητες να μολυνθώ από AIDS είναι πολλές.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.2 Η σκέψη του AIDS με τρομάζει.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.3 Αν μολυνθώ από AIDS, δεν θα αξίζει πια να ζήσω.	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.4 Η συμπεριφορά μου αυξάνει τις πιθανότητες να μολυνθώ από AIDS	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.5 Είναι ενοχλητικό να χρησιμοποιώ προφυλακτικό κατά τη διάρκεια της σεξουαλικής επαφής	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.6 Το να μολυνθώ από AIDS είναι σοβαρότερο από το να αρρωστήσω από μια άλλη ασθένεια	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.7 Το να αποφύγω την ενδοφλέβια χρήση ναρκωτικών, είναι ένας καλός τρόπος πρόληψης του AIDS	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.8 Αν μολυνθώ από AIDS, η ζωή μου θα γίνει συντρίμια	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.9 Φοβάμαι ότι δεν θα μπορούσα να αντισταθώ στην ενδοφλέβια χρήση ναρκωτικών, αν μου δινόταν η ευκαιρία	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.10 Η αποστείρωση των συνέργων ('σέων') πριν από κάθε χρήση αποτελεί αναγκαία προφύλαξη για να μειωθούν οι πιθανότητες να μολυνθώ από AIDS	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.11 Η χρήση προφυλακτικού κατά τη διάρκεια της σεξουαλικής επαφής είναι ένας αποτελεσματικός τρόπος να αποφύγω τη μόλυνση από το AIDS	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.12 Είναι δύσκολο να αποφύγω τη χρήση μη αποστειρωμένων συνέργων εάν κάνω χρήση ναρκωτικών	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1
E.13 Ανησυχώ πολύ μήπως μολυνθώ με AIDS	<input type="checkbox"/> 5	<input type="checkbox"/> 4	<input type="checkbox"/> 3	<input type="checkbox"/> 2	<input type="checkbox"/> 1

ΠΑΡΑΚΑΛΟΥΜΕ ΠΡΟΧΟΡΦΙΣΤΕ ΣΤΟ ΤΜΗΜΑ ΣΤ

ΤΜΗΜΑ ΣΤ

Ακολουθούν κάποιες δηλώσεις. Παρακαλούμε δείξτε πόσο συμφωνείτε ή διαφωνείτε με καθεμιά από αυτές, με βάση την κλίμακα από 1 έως 7.

ΣΥΜΦΩΝΩ
ΑΠΟΛΥΤΑ 1 2 3 4 5 6 7 ΡΙΖΙΚΑ
ΔΙΑΦΩΝΩ

Γράψτε τον αντίστοιχο αριθμό στο τετραγωνάκι □ δίπλα από κάθε ερώτηση. Δεν υπάρχουν σωστές ή λάθος δηλώσεις. Παρακαλούμε απαντήστε σε ΟΛΕΣ τις ερωτήσεις.

ΣΤ.1 Δεν υπάρχει τίποτα σημαντικότερο από την καλή υγεία.

ΣΤ.2 Η καλή υγεία έχει μικρή σημασία για μια ευτυχισμένη ζωή.

ΣΤ.3 Εάν δεν έχεις καλή υγεία, δεν έχεις τίποτα.

ΣΤ.4 Υπάρχουν πολλά πράγματα τα οποία με ενδιαφέρουν περισσότερο από την υγεία μου.

ΠΑΡΑΚΑΛΟΥΜΕ ΠΡΟΧΩΡΕΙΣΤΕ ΣΤΟ ΤΜΗΜΑ Ζ

ΤΜΗΜΑ Ζ

Το ερωτηματολόγιο αυτό φτιάχτηκε για να προσδιορίσει πώς διαφορετικοί άνθρωποι αντιλαμβάνονται κάποια θέματα που σχετίζονται με την υγεία. Περιλαμβάνει μια σειρά από δηλώσεις. Αυτό που ζητιέται από εσάς είναι να δείξετε πόσο συμφωνείτε ή πόσο διαφωνείτε με καθεμιά από τις δηλώσεις σε μια κλίμακα από το ένα (1) έως το έξι (6). Μπορείτε να το κάνετε αυτό βάζοντας σε κύκλο τον αντίστοιχο αριθμό, δίπλα από κάθε δήλωση. Παρακαλούμε, βάλτε σε κύκλο μόνο έναν αριθμό, δίπλα από κάθε δήλωση. Δεν υπάρχουν σωστές ή λάθος δηλώσεις.

1 = ΔΙΑΦΩΝΩ ΡΙΖΙΚΑ
2 = ΔΙΑΦΩΝΩ ΜΕΤΡΙΑ
3 = ΔΙΑΦΩΝΩ ΛΙΓΟ
4 = ΣΥΜΦΩΝΩ ΛΙΓΟ
5 = ΣΥΜΦΩΝΩ ΜΕΤΡΙΑ
6 = ΣΥΜΦΩΝΩ ΑΠΟΛΥΤΑ

- | | | | | | | |
|---|---|---|---|---|---|---|
| Z.1 Αν αρρωστήσω, από μένα εξαρτάται το πόσο γρήγορα θα ξαναγίνω καλά. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.2 Ο,τι και να κάνω, αν είναι να αρρωστήσω, θα αρρωστήσω. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.3 Ο καλύτερος τρόπος για να μην αρρωστήσω είναι να έχω τακτική επαφή με το γιατρό μου | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.4 Οι παράγοντες που επηρεάζουν την υγεία μου είναι τυχαίοι | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.6 Οποτε δεν αισθάνομαι καλά, θα πρέπει να συμβουλευόμαι κάποιο γιατρό. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.7 Εγώ ελέγχω την υγεία μου. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.8 Η οικογένειά μου παίζει σημαντικό ρόλο στο αν θα αρρωστήσω ή θα παραμείνω υγιής. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.9 Είναι δικό μου φταίξιμο αν αρρωστήσω. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.10 Η τύχη παίζει σημαντικό ρόλο στο πόσο γρήγορα θα αναρρώσω από μια ασθένεια. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.11 Οι ειδικοί της υγείας ελέγχουν την υγεία μου. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.12 Η καλή υγεία μου είναι σε μεγάλο βαθμό ζήτημα τύχης. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.13 Το βασικότερο για την υγεία μου είναι το τί κάνω εγώ ο ίδιος. | 1 | 2 | 3 | 4 | 5 | 6 |
| Z.14 Αν προσέχω τον εαυτό μου, μπορώ να αποφύγω την αρρώστεια. | 1 | 2 | 3 | 4 | 5 | 6 |

ΓΥΡΙΣΤΕ ΣΕΛΙΔΑ 11

- Z.15** Αναρρώνω από μια ασθένεια, συνήθως γιατί άλλοι άνθρωποι (π.χ. γιατροί, νοσοκόμες, η οικογένεια, οι φίλοι) με έχουν φροντίσει καλά. 1 2 3 4 5 6
- Z.16** Ανεξάρτητα από το τί θα κάνω εγώ, είναι πιθανό να αρρωστήσω. 1 2 3 4 5 6
- Z.17** Αν είναι γραφτό μου, θα είμαι υγιής. 1 2 3 4 5 6
- Z.18** Αν έχω τη σωστή συμπεριφορά, θα είμαι υγιής. 1 2 3 4 5 6
- Z.19** Σε ό,τι αφορά την υγεία μου, μπορώ να κάνω μόνο ό,τι μου λέει ο γιατρός μου. 1 2 3 4 5 6

ΠΑΡΑΚΑΛΟΥΜΕ ΠΡΟΧΩΡΗΣΤΕ ΣΤΟ ΤΜΗΜΑ Η

Ακολουθούν κάποιες ερωτήσεις για τη σεξουαλική σας συμπεριφορά. Παρακαλούμε, διαβάστε τις προσεκτικά. Απαντήστε τσεκάροντας (✓) στο αντίστοιχο τετραγωνάκι ποιά απάντηση σας αντιπροσωπεύει. Θα θέλαμε να απαντήσετε σε ΟΛΕΣ τις ερωτήσεις, εκτός εάν κάποιες σας ενοχλούν ιδιαίτερα. Θα θέλαμε να σας διαβεβαιώσουμε ότι κανείς άλλος εκτός από τον ερευνητή που σας δίνει αυτό το ερωτηματολόγιο δεν θα δει τις απαντήσεις σας. Αγνοήστε τους αριθμούς δίπλα στα τετραγωνάκια.

Εξω, ΠΡΙΝ ΜΠΕΙΤΕ ΣΤΗ ΦΥΛΑΚΗ

H. 1 Είχατε σεξουαλικές σχέσεις; ΝΑΙ ¹ ΟΧΙ ²

(Αν απαντήσατε "ΟΧΙ", πηγαίνατε στην ερώτηση H.8)

H.2 Αν απαντήσατε ΝΑΙ, κάνατε

- α) κολπικό έρωτα
- | | | |
|-----------------------------|--------------------------|--------------|
| ΠΑΝΤΑ ΜΕ ΠΡΟΦΥΛΑΞΗ | <input type="checkbox"/> | ¹ |
| ΜΕ ΠΡΟΦΥΛΑΞΗ ΚΑΤΑ ΠΕΡΙΠΤΩΣΗ | <input type="checkbox"/> | ² |
| ΠΑΝΤΑ ΧΩΡΙΣ ΠΡΟΦΥΛΑΞΗ | <input type="checkbox"/> | ³ |
| ΔΕΝ ΙΣΧΥΕΙ | <input type="checkbox"/> | ⁴ |
| ΔΕΝ ΑΠΑΝΤΩ | <input type="checkbox"/> | ⁵ |
- β) πρωκτικό έρωτα
- | | | |
|-----------------------------|--------------------------|--------------|
| ΠΑΝΤΑ ΜΕ ΠΡΟΦΥΛΑΞΗ | <input type="checkbox"/> | ¹ |
| ΜΕ ΠΡΟΦΥΛΑΞΗ ΚΑΤΑ ΠΕΡΙΠΤΩΣΗ | <input type="checkbox"/> | ² |
| ΠΑΝΤΑ ΧΩΡΙΣ ΠΡΟΦΥΛΑΞΗ | <input type="checkbox"/> | ³ |
| ΔΕΝ ΙΣΧΥΕΙ | <input type="checkbox"/> | ⁴ |
| ΔΕΝ ΑΠΑΝΤΩ | <input type="checkbox"/> | ⁵ |

H.3 Με πόσες γυναίκες (εκτός από τη σύζυγό σας ή τη μόνιμη σχέση σας) είχατε σεξουαλική επαφή, τους τελευταίους 12 μήνες, πριν την τωρινή σας φυλάκιση;

- | | | |
|-------------|--------------------------|--------------|
| καμμία | <input type="checkbox"/> | ¹ |
| 1 | <input type="checkbox"/> | ² |
| 2 - 5 | <input type="checkbox"/> | ³ |
| 6 - 10 | <input type="checkbox"/> | ⁴ |
| πάνω από 11 | <input type="checkbox"/> | ⁵ |
| Δεν απαντώ | <input type="checkbox"/> | ⁶ |

H.4 Με πόσους άνδρες είχατε σεξουαλική επαφή, τους τελευταίους 12 μήνες, πριν την τωρινή σας φυλάκιση;

- | | | |
|-------------|--------------------------|--------------|
| κανένα | <input type="checkbox"/> | ¹ |
| 1 | <input type="checkbox"/> | ² |
| 2 - 5 | <input type="checkbox"/> | ³ |
| 6 - 10 | <input type="checkbox"/> | ⁴ |
| πάνω από 11 | <input type="checkbox"/> | ⁵ |
| Δεν απαντώ | <input type="checkbox"/> | ⁶ |

ΓΥΡΙΣΤΕ ΣΕΛΙΔΑ

H.5 Έχετε ποτέ πληρώσει για να έχετε σεξουαλική επαφή με πόρνη τα τελευταία 10 χρόνια;

ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

H.6 Έξω, ΠΡΙΝ ΜΠΕΙΤΕ ΣΤΗ ΦΥΛΑΚΗ, παίρνατε καμιά από τις παρακάτω προφυλάξεις, για να μειώσετε τις πιθανότητες να μολυνθείτε από το AIDS;

Χρησιμοποιούσα προφυλακτικά συχνά ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

Επέλεγα προσεκτικά τους ερωτικούς μου συντρόφους ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

Μείωσα τον αριθμό των ερωτικών συντρόφων μου ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

Σταματούσα τις σεξουαλικές σχέσεις με ένα συγκεκριμένο σύντροφο ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

Άλλο (δώστε λεπτομέρειες)

H.7 Έξω, ΠΡΙΝ ΜΠΕΙΤΕ ΣΤΗ ΦΥΛΑΚΗ, πόσο συχνά σκεφτόσαστε τη σεξουαλική σας συμπεριφορά, σε σχέση με το AIDS;

ΠΟΤΕ ¹
ΣΠΑΝΙΑ ²
ΚΑΠΟΥ - ΚΑΠΟΥ ³
ΣΥΧΝΑ ⁴
ΠΟΛΥ ΣΥΧΝΑ ⁵
ΔΕΝ ΑΠΑΝΤΩ ⁶

ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ

H.8 Όσο είστε ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ, είχατε ποτέ σεξουαλική επαφή με κάποιο συγκρατούμενό σας;

ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

(Αν απαντήσατε "ΟΧΙ", πηγαίνατε στην ερώτηση H.13)

H.9 Συνολικά, με πόσους ερωτικούς συντρόφους είχατε σχέσεις;

1 ¹
2 - 5 ²
6 - 10 ³
πάνω από 11 ⁴
Δεν απαντώ ⁵

H.10 Στην ερωτική πράξη, ήσασταν:

"Ενεργητικός" ¹

"Παθητικός" ²

Άλλες φορές "ενεργητικός", άλλες "παθητικός" ³

Δεν απαντώ ⁴

H.11 Όταν κάνατε έρωτα, αυτό γινόταν

ΜΕ ΠΡΟΦΥΛΑΞΗ ¹

ΧΩΡΙΣ ΠΡΟΦΥΛΑΞΗ ²

ΔΕΝ ΑΠΑΝΤΩ ³

H.12 ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ, έχετε πάρει καμιά από τις παρακάτω προφυλάξεις, για να μειώσετε τις πιθανότητες να μολυνθείτε από AIDS;

Χρησιμοποιούσα προφυλακτικά συχνά ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

Επέλεγα προσεκτικά τους ερωτικούς μου συντρόφους ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

Μείωσα τον αριθμό των ερωτικών συντρόφων μου ΝΑΙ ¹ ΟΧΙ ² ΔΕΝ ΑΠΑΝΤΩ ³

Άλλο (δώστε λεπτομέρειες)

ΜΕΤΑ ΤΗΝ ΑΠΟΦΥΛΑΚΙΣΗ

Παρακαλούμε, απαντήστε βάζοντας σε κύκλο την απάντηση που σας αντιπροσωπεύει.

H.13 Με πόσους ερωτικούς συντρόφους πιστεύετε ότι θα έχετε σεξουαλικές σχέσεις ένα χρόνο μετά την αποφυλάκισή σας;

1 ¹
2 - 5 ²
6 - 10 ³
πάνω από 11 ⁴
Δεν απαντώ ⁵

ΓΥΡΙΣΤΕ ΣΕΛΙΔΑ

H.14 Ποιο θα είναι το φύλο των ερωτικών σας συντρόφων;

- Πάντα το αντίθετο φύλο ¹
Πάντα το ίδιο φύλο ²
Και άνδρες και γυναίκες ³

Απαντήστε αυτές τις ερωτήσεις, βάζοντας σε κύκλο την απάντηση που σας αντιπροσωπεύει. Αγνοήστε τους αριθμούς δίπλα στις απαντήσεις.

H.15 Σκοπεύετε να έχετε κολπική επαφή χωρίς προφύλαξη;

ΣΙΓΟΥΡΑ	ΠΟΛΥ	ΔΕΝ ΕΙΜΑΙ	ΜΑΛΛΟΝ	ΣΙΓΟΥΡΑ	ΔΕΝ ΑΠΑΝΤΩ
ΝΑΙ	ΠΙΘΑΝΟ	ΣΙΓΟΥΡΟΣ	ΑΠΙΘΑΝΟ	ΟΧΙ	
5	4	3	2	1	0

H.16 Σκοπεύετε να κάνετε πρωκτικό έρωτα χωρίς προφύλαξη;

ΣΙΓΟΥΡΑ	ΠΟΛΥ	ΔΕΝ ΕΙΜΑΙ	ΜΑΛΛΟΝ	ΣΙΓΟΥΡΑ	ΔΕΝ ΑΠΑΝΤΩ
ΝΑΙ	ΠΙΘΑΝΟ	ΣΙΓΟΥΡΟΣ	ΑΠΙΘΑΝΟ	ΟΧΙ	
5	4	3	2	1	0

ΜΕΤΑ ΤΗΝ ΑΠΟΦΥΛΑΚΙΣΗ, σκοπεύετε να πάρετε κάποια από τις παρακάτω προφυλάξεις, για να μειώσετε τις πιθανότητες να μολυνθείτε από AIDS:

H.17 Θα επιλέξω να μην έχω σεξουαλικές σχέσεις με κάποιο συγκεκριμένο σύντροφο

ΣΙΓΟΥΡΑ	ΠΟΛΥ	ΔΕΝ ΕΙΜΑΙ	ΜΑΛΛΟΝ	ΣΙΓΟΥΡΑ	ΔΕΝ ΑΠΑΝΤΩ
ΝΑΙ	ΠΙΘΑΝΟ	ΣΙΓΟΥΡΟΣ	ΑΠΙΘΑΝΟ	ΟΧΙ	
5	4	3	2	1	0

H.18 Θα μειώσω τον αριθμό των συντρόφων

ΣΙΓΟΥΡΑ	ΠΟΛΥ	ΔΕΝ ΕΙΜΑΙ	ΜΑΛΛΟΝ	ΣΙΓΟΥΡΑ	ΔΕΝ ΑΠΑΝΤΩ
ΝΑΙ	ΠΙΘΑΝΟ	ΣΙΓΟΥΡΟΣ	ΑΠΙΘΑΝΟ	ΟΧΙ	
5	4	3	2	1	0

H.19 Θα επιλέξω πιο προσεκτικά τους ερωτικούς μου συντρόφους

ΣΙΓΟΥΡΑ	ΠΟΛΥ	ΔΕΝ ΕΙΜΑΙ	ΜΑΛΛΟΝ	ΣΙΓΟΥΡΑ	ΔΕΝ ΑΠΑΝΤΩ
ΝΑΙ	ΠΙΘΑΝΟ	ΣΙΓΟΥΡΟΣ	ΑΠΙΘΑΝΟ	ΟΧΙ	
5	4	3	2	1	0

H.20 Θα αλλάξω σεξουαλικές πρακτικές με το σύντροφό μου.

ΣΙΓΟΥΡΑ	ΠΟΛΥ	ΔΕΝ ΕΙΜΑΙ	ΜΑΛΛΟΝ	ΣΙΓΟΥΡΑ	ΔΕΝ ΑΠΑΝΤΩ
ΝΑΙ	ΠΙΘΑΝΟ	ΣΙΓΟΥΡΟΣ	ΑΠΙΘΑΝΟ	ΟΧΙ	
5	4	3	2	1	0

H.21 Θα χρησιμοποιώ προφυλακτικό τακτικά

ΣΙΓΟΥΡΑ	ΠΟΛΥ	ΔΕΝ ΕΙΜΑΙ	ΜΑΛΛΟΝ	ΣΙΓΟΥΡΑ	ΔΕΝ ΑΠΑΝΤΩ
ΝΑΙ	ΠΙΘΑΝΟ	ΣΙΓΟΥΡΟΣ	ΑΠΙΘΑΝΟ	ΟΧΙ	
5	4	3	2	1	0

H.22 Άλλη (δώστε λεπτομέρειες)

.....

.....

Ακολουθούν κάποιες ερωτήσεις για την ενδοφλέβια χρήση ναρκωτικών. Παρακαλούμε απαντήστε όλες τις ερωτήσεις τσεκάροντας (✓) το τετραγωνάκι στην απάντηση που σας αντιπροσωπεύει. Αγνοήστε τους αριθμούς δίπλα στα τετραγωνάκια. Για μια ακόμα φορά σας διαβεβαιώνουμε ότι οι απαντήσεις σας είναι ΑΠΟΛΥΤΑ ΕΜΠΙΣΤΕΥΤΙΚΕΣ.

Θ.1 Ποιά χρονιά κάνατε για πρώτη φορά ενδοφλέβια χρήση ναρκωτικών;

Θ.2 Αυτό έγινε ενώ ήσασταν: ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ ¹
ΕΞΩ ΑΠΟ ΤΗ ΦΥΛΑΚΗ ²

Θ.3 Συνεχίζετε ακόμη να κάνετε χρήση; ΝΑΙ ¹ ΟΧΙ ² Δεν απαντώ ³

Θ.4 Πριν από ποσο καιρό κάνατε για τελευταία φορά ενδοφλέβια χρήση ναρκωτικών;
0 - 7 ημέρες ¹
8 - 29 ημέρες ²
1 - 4 μήνες ³
5 - 11 μήνες ⁴
1 - 2 χρόνια ⁵
πριν από 2 χρόνια ⁶

Θ.5 Αυτό έγινε μέσα ή έξω από τη φυλακή; ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ ¹
ΕΞΩ ΑΠΟ ΤΗ ΦΥΛΑΚΗ ²

Θ.6 Ποιά χρονιά κάνατε για πρώτη φορά κοινή ενδοφλέβια χρήση ναρκωτικών; (μοιραστήκατε τα 'σέα' με κάποιον άλλο, χωρίς να τα αποστειρώσετε)

Θ.7 Αυτό έγινε ενώ ήσασταν μέσα ή έξω από τη φυλακή; ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ ¹
ΕΞΩ ΑΠΟ ΤΗ ΦΥΛΑΚΗ ²

Θ.8 Συνεχίζετε ακόμη να κάνετε κοινή χρήση; ΝΑΙ ¹ ΟΧΙ ²

Θ.9 Πριν από πόσο καιρό κάνατε για τελευταία φορά κοινή χρήση;
0 - 7 ημέρες ¹
8 - 29 ημέρες ²
1 - 4 μήνες ³
5 - 11 μήνες ⁴
1 - 2 χρόνια ⁵
πριν από 2 χρόνια ⁶

Θ.10 Αυτό έγινε μέσα ή έξω από τη φυλακή; ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ ¹
ΕΞΩ ΑΠΟ ΤΗ ΦΥΛΑΚΗ ²

Μέτρα προφύλαξης

Θ.11 ΠΡΙΝ ΜΠΕΙΤΕ ΣΤΗ ΦΥΛΑΚΗ, παίρνατε καμιά από τις παρακάτω προφυλάξεις για να μειώσετε τις πιθανότητες να μολυνθείτε από AIDS:

- | | | | |
|--------------------------------------|------------------------------|------------------------------|-------------------------------------|
| Χρησιμοποιούσα αποστειρωμένα σύνεργα | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |
| Χρησιμοποιούσα καινούριες σύριγγες | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |
| Περιορίσα την κοινής χρήση συνέργων | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |
| Σταμάτησα την κοινή χρήση συνέργων | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |
| Σταμάτησα τη χρήση | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |

Άλλο (δώστε λεπτομέρειες)

Θ.12 ΜΕΣΑ ΣΤΗ ΦΥΛΑΚΗ, παίρνετε καμιά από τις παρακάτω προφυλάξεις για να μειώσετε τις πιθανότητες να μολυνθείτε από AIDS:

- | | | | |
|-------------------------------------|------------------------------|------------------------------|-------------------------------------|
| Χρησιμοποιώ αποστειρωμένα σύνεργα | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |
| Χρησιμοποιώ καινούριες σύριγγες | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |
| Περιορίσα την κοινής χρήση συνέργων | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |
| Σταμάτησα την κοινή χρήση συνέργων | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |
| Σταμάτησα τη χρήση | ΝΑΙ <input type="checkbox"/> | ΟΧΙ <input type="checkbox"/> | ΔΕΝ ΑΠΑΝΤΩ <input type="checkbox"/> |

Άλλο (δώστε λεπτομέρειες)

Απαντήστε αυτές τις ερωτήσεις, βάζοντας σε κύκλο την απάντηση που σας αντιπροσωπεύει

Θ.13 ΑΦΟΥ ΑΠΟΦΥΛΑΚΙΣΤΕΙΤΕ, σκοπεύετε να πάρετε κάποια από τις παρακάτω προφυλάξεις για να μειώσετε τις πιθανότητες να μολυνθείτε από AIDS:

Θα περιορίσω το μοίρασμα των συνέργων

- | | | | | | |
|---------|--------|-----------|---------|---------|------------|
| ΣΙΓΟΥΡΑ | ΠΟΛΥ | ΔΕΝ ΕΙΜΑΙ | ΜΑΛΛΟΝ | ΣΙΓΟΥΡΑ | ΔΕΝ ΑΠΑΝΤΩ |
| ΝΑΙ | ΠΙΘΑΝΟ | ΣΙΓΟΥΡΟΣ | ΑΠΙΘΑΝΟ | ΟΧΙ | |

Θα χρησιμοποιώ καινούριες σύριγγες / βελόνες

- | | | | | | |
|---------|--------|-----------|---------|---------|------------|
| ΣΙΓΟΥΡΑ | ΠΟΛΥ | ΔΕΝ ΕΙΜΑΙ | ΜΑΛΛΟΝ | ΣΙΓΟΥΡΑ | ΔΕΝ ΑΠΑΝΤΩ |
| ΝΑΙ | ΠΙΘΑΝΟ | ΣΙΓΟΥΡΟΣ | ΑΠΙΘΑΝΟ | ΟΧΙ | |

Θα χρησιμοποιώ αποστειρωμένα εργαλεία

- | | | | | | |
|---------|--------|-----------|---------|---------|------------|
| ΣΙΓΟΥΡΑ | ΠΟΛΥ | ΔΕΝ ΕΙΜΑΙ | ΜΑΛΛΟΝ | ΣΙΓΟΥΡΑ | ΔΕΝ ΑΠΑΝΤΩ |
| ΝΑΙ | ΠΙΘΑΝΟ | ΣΙΓΟΥΡΟΣ | ΑΠΙΘΑΝΟ | ΟΧΙ | |

Άλλο (δώστε λεπτομέρειες)

Ακολουθούν κάποιες δηλώσεις που αναφέρονται στην ενδοφλέβια χρήση ναρκωτικών μέσα στη φυλακή. Παρακαλούμε διαβάστε καθεμιά από αυτές προσεκτικά και δείξτε πόσο σας αντιπροσωπεύουν, βάζοντας σε κύκλο έναν αριθμό στην κλίμακα (1) έως (7), στην απάντηση δίπλα από κάθε δήλωση. Δεν υπάρχουν ΣΩΣΤΕΣ ή ΛΑΘΟΣ δηλώσεις. Μας ενδιαφέρει μόνο η ΠΡΟΣΩΠΙΚΗ ΣΑΣ άποψη γι' αυτές.

1.1 Όσο θα είμαι ακόμα στη φυλακή σκοπεύω να αποφύγω τη χρήση ναρκωτικών

Σίγουρα Οχι	1	2	3	4	5	6	7	Σίγουρα Ναι
--------------------	---	---	---	---	---	---	---	--------------------

1.2 Θα ήθελα να αποφύγω τη χρήση ναρκωτικών όσο θα είμαι ακόμα στη φυλακή

Διαφωνώ ριζικά	1	2	3	4	5	6	7	Συμφωνώ απόλυτα
-----------------------	---	---	---	---	---	---	---	------------------------

1.3 Πόσο πιθανό θεωρείτε το να μπορέσετε να αποφύγετε τη χρήση ναρκωτικών, όσο θα είστε στη φυλακή;

Απίθανο	1	2	3	4	5	6	7	Πιθανό
----------------	---	---	---	---	---	---	---	---------------

1.4 Το να κάνω χρήση ναρκωτικών μέσα στη φυλακή είναι:

Κακό	1	2	3	4	5	6	7	Καλό
Ωφέλιμο	7	6	5	4	3	2	1	Βλαβερό
Δυσάρεστο	1	2	3	4	5	6	7	Ευχάριστο
Απολαυστικό	7	6	5	4	3	2	1	Βασανιστικό
Ανοησία	1	2	3	4	5	6	7	Εξυπνάδα

1.5 Οι σημαντικότεροι για μένα άνθρωποι (π.χ. φίλοι, συγγενείς) νομίζουν ότι **Δεν θα έπρεπε** 1 2 3 4 5 6 7 **Θα έπρεπε** να κάνω χρήση ναρκωτικών μέσα στη φυλακή.

1.6 Οι σημαντικότεροι για μένα άνθρωποι (π.χ. φίλοι, συγγενείς) θα **Επιδοκίμαζαν** 7 6 5 4 3 2 1 **Αποδοκίμαζαν** το να κάνω χρήση ναρκωτικών μέσα στη φυλακή.

1.7 Μόνο από μένα εξαρτάται αν θα κάνω χρήση ναρκωτικών μέσα στη φυλακή

Διαφωνώ ριζικά	1	2	3	4	5	6	7	Συμφωνώ απόλυτα
-----------------------	---	---	---	---	---	---	---	------------------------

1.8 Δεν ξέρω αν μπορώ να αποφύγω τη χρήση ναρκωτικών μέσα στη φυλακή

Συμφωνώ απόλυτα	1	2	3	4	5	6	7	Διαφωνώ ριζικά
------------------------	---	---	---	---	---	---	---	-----------------------

1.9 Είμαι σίγουρος ότι δεν θα κάνω χρήση ναρκωτικών μέσα στη φυλακή από εδώ και πέρα.

Διαφωνώ ριζικά	1	2	3	4	5	6	7	Συμφωνώ απόλυτα
-----------------------	---	---	---	---	---	---	---	------------------------

I.10 Το να αποφύγω τη χρήση ναρκωτικών μέσα στη φυλακή είναι:

Εύκολο 7 6 5 4 3 2 1 Δύσκολο

I.11 Το να αποφύγω τη χρήση ναρκωτικών μέσα στη φυλακή θα με έκανε να αισθανθώ πιο υγιής

Απίθανο 1 2 3 4 5 6 7 Πιθανό

I.12 Το να αποφύγω τη χρήση ναρκωτικών μέσα στη φυλακή θα με βοηθούσε να αντιμετωπίσω πιο εύκολα τη ζωή μου στη φυλακή

Πιθανό 7 6 5 4 3 2 1 Απίθανο

I.13 Το να αποφύγω τη χρήση ναρκωτικών μέσα στη φυλακή θα με έκανε να αισθάνομαι πιο "ανεβασμένος"

Απίθανο 1 2 3 4 5 6 7 Πιθανό

I.14 Το να είμαι υγιής είναι:

Κακό 1 2 3 4 5 6 7 Καλό
Ωφέλιμο 7 6 5 4 3 2 1 Βλαβερό
Δυσάρεστο 1 2 3 4 5 6 7 Ευχάριστο

I.15 Να μπορώ να αντιμετωπίζω πιο εύκολα τη ζωή μου στη φυλακή είναι:

Κακό 1 2 3 4 5 6 7 Καλό
Ωφέλιμο 7 6 5 4 3 2 1 Βλαβερό
Δυσάρεστο 1 2 3 4 5 6 7 Ευχάριστο

I.16 Το να αισθάνομαι πιο "ανεβασμένος" στη φυλακή είναι:

Κακό 1 2 3 4 5 6 7 Καλό
Ωφέλιμο 7 6 5 4 3 2 1 Βλαβερό
Δυσάρεστο 1 2 3 4 5 6 7 Ευχάριστο

I.17 Άλλοι κρατούμενοι, χρήστες ναρκωτικών, οι οποίοι είναι σημαντικοί για μένα νομίζουν ότι

Δεν θα έπρεπε 1 2 3 4 5 6 7 Θα έπρεπε

να κάνω χρήση ναρκωτικών μέσα στη φυλακή.

I.18 Άλλοι κρατούμενοι, χρήστες ναρκωτικών, οι οποίοι είναι σημαντικοί για μένα θα:

Επιδοκίμαζαν 7 6 5 4 3 2 1 Αποδοκίμαζαν

το να κάνω χρήση ναρκωτικών μέσα στη φυλακή.

I.19 Σχετικά με τη χρήση ναρκωτικών μέσα στη φυλακή, πόσο θέλετε να κάνετε αυτό που οι φίλοι σας και οι συγγενείς σας νομίζουν σωστό;

Καθόλου 1 2 3 4 5 6 7 Πάρα πολύ

I.20 Σχετικά με τη χρήση ναρκωτικών μέσα στη φυλακή, πόσο θέλετε να κάνετε αυτό που άλλοι κρατούμενοι, χρήστες, νομίζουν σωστό;

Καθόλου 1 2 3 4 5 6 7 Πάρα πολύ

1.10 To be completed by the
applicant and returned to the
Registrar
1.11 To be completed by the
applicant and returned to the
Registrar
1.12 To be completed by the
applicant and returned to the
Registrar
1.13 To be completed by the
applicant and returned to the
Registrar
1.14 To be completed by the
applicant and returned to the
Registrar
1.15 To be completed by the
applicant and returned to the
Registrar
1.16 To be completed by the
applicant and returned to the
Registrar
1.17 To be completed by the
applicant and returned to the
Registrar
1.18 To be completed by the
applicant and returned to the
Registrar
1.19 To be completed by the
applicant and returned to the
Registrar
1.20 To be completed by the
applicant and returned to the
Registrar

