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A Cross-cultural Study of Psychosocial Factors Influencing Young Peoples' Intended Non-condom Use

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This thesis is dedicated to the participants of the study:
They *are* the study

Abstract

Two studies were conducted in the research domain of Health Psychology to investigate factors influencing undergraduates' engagement in unprotected sex. Specifically, associations were investigated between socio-cognitive factors (attitudes, norms), culture (British versus Greek) temporal factors (having a present or future time perspective - TP), and contextual factors (relationship status - RS) and intended and actual non-condom use. The influence of past non-condom use was also examined. Additionally, the adequacy of socio-cognitive theories typically used in risk research, such as the theories of reasoned action (TRA) and planned behaviour (TPB), was assessed. A total of 342 students participated (112 in Study 1 and 230 in Study 2). A mixed-methods sequential design was employed, encompassing quantitative and qualitative techniques. Results showed that: past non-condom use revealed the strongest relationship with intended unprotected sex, followed by attitudes, relationship status, and fatalistic time perspective. The TRA variables were sufficient predictors of intended unprotected sex, with perceived behavioural control not being a substantial addition, thus, TPB was not established superior. Past unprotected sex, present-fatalistic TP, RS, and culture were significant predictors of intended unprotected sex. Past behaviour was the strongest predictor of non-condom use for participants in exclusive relationships, whereas, attitudes were the strongest predictors of unprotected sex for single participants. Thus, it was argued that interventions aiming at changing young peoples' attitudes towards enhancing condom use should target partners in exclusive relationships. Finally, cultural differences were found regarding preference in contraceptive methods and serial monogamy. To conclude, this research demonstrated the necessity of combining cognitive, habitual, contextual, and ethnic factors whilst studying sexual risk. Predominant theoretical models emphasizing rationality in sex-related research may be re-assessed, on the basis of this study's results. Also, the effectiveness of employing mixed-methodologies was established.

List of Abbreviations

AIDS: Acquired Immune Deficiency Syndrome.

FTP: Future Time Perspective.

GUM: Genitourinary Medicine.

HBM: Health Belief Model.

HIV: Human Immunodeficiency Virus.

nAch: Need of Achievement.

PMT: Protection Motivation Theory.

PTP: Present Time Perspective.

RS: Relationship Status.

STDs: Sexually Transmitted Diseases.

TP: Time Perspective.

TPB: Theory of Planned Behaviour.

TRA: Theory of Reasoned Action.

WHO: World Health Organization.

ZTPI: Zimbardo Time Perspective Inventory.

It is through living with Others
That we have to Suffer
From the postponements Forced
On the fulfilment of our Desires

Paul Fraisse, The Psychology of Time

Chapter 1.
The Risk Construct

The topic under discussion in this thesis is sexual risk-taking in young adults. The specific behaviour under investigation is 'non-condom use' and the population of interest consists of university undergraduates. This first chapter is an introduction to the concept of 'sexual risk'. The chapter begins with relevant statistics and definitions and continues with a review of studies which demonstrate the nature of the risk construct, as well as commonalities in risk research.

Since the AIDS epidemic in the 1980s, health-related research regarding the causal factors of unprotected sex and the ways of preventing it has amassed.

Recent statistics have revealed that rates of sexually transmitted diseases (STDs) are increasing. Globally, the World Health Organization (WHO) has estimated an annual total of 333 million new STD cases per year, excluding genital warts (30 million new infections per year), herpes (20 million) and chancroid, at 7 million annual cases (Adler, 2002). In the UK, the number of cases seen in genitourinary medicine clinics (GUM clinics) has doubled over the past 20 years, and now amounts to just over 1 million new cases per year.

Furthermore, STDs, including HIV, represent significant health issues for university students, a situation which seriously compromises sexual health. Depending on the sample, location and year, studies have shown that between 6% and 43% of the university population will contract at least one STD (Civic, 2000; Scandell, Klinkenberg, Hawkes, & Spriggs, 2003). Authors have suggested that university students may be at a higher level of risk for contracting a STD, as compared to the general population (Katz, Fromme, & D'Amico, 2000; Leigh, 1999). Based on a blood analysis of 16,863 students at 19 universities in the United States, Gayle, Keeling, Garcia-Tunon, Kilbourne, Narkunas, Ingram, et al. (1990) found that one in 500 undergraduates tested positive for the HIV virus; this infection rate was reported as greater than that of civilian applicants for the military service.

Sexual health can be defined as the capacity to enjoy and control sexual behaviour in line with a personal and social ethic, free from psychological factors that inhibit sexual response and impair sexual relationships, and free from psychological disorders that interfere with sexual function (Mace et al., 1974). Another definition of sexual health was given by the World Health Organization as: '...the integration of the physical, emotional, intellectual, and social aspects of sexual being in ways that are enriching and that enhance personality, communication and love' (WHO, 1975).

Based on the above definitions, sexual health involves many inter-related factors, as it implies genital health, reproductive health, psychosocial health, and absence of disease. Furthermore, it includes freedom of reproductive rights and choices, access to health education, and recognition of the meaning of sex in the lives of those addressed. The presence of a STD is a clearcut compromise of sexual health, affecting the the individual both physically and psychologically. To elaborate, a number of authors (e.g., Green, 2002) have summarized the psychological consequences of having a STD, those being: (a) high levels of distress on diagnosis; (b) concerns about significant others' possible negative attitudes and judgment; (c) stress and fear regarding transmitting the infection to partners; (d) anxiety about how to inform partners; (e) anxiety about the reaction of partner and about potential deterioration of the relationship; (f) anxiety about consequences on subsequent relationships; (g) fears regarding long-term consequences of infection on general health.

In relation to physical sexual health, the consequences of common STDs may range from simple irritability of the genital area, to infertility and death. For example, in men, recurrent infections of the prostate may lead to cancer of the prostate. Cervical warts (i.e., the Human Pappilloma Virus - HPV) comprise one of the main causes of cervical cancer in young women, aged 18-24 (Adler & Meheust, 2000). Also, failure to diagnose and treat traditional infections, such as gonorrhea, chlamydia and syphilis, can often have deleterious effects on pregnancy (e.g.,

miscarriage, prematurity, congenital and neonatal infections and blindness).

Aside from abstinence, the only way at the moment to avoid a STD and ensure sexual health is to use condoms successfully and consistently, for vaginal, anal, and oral sex. Therefore, conducting research in the domain of sexual risk and empirically clarifying factors responsible for non-condom use should comprise the first steps towards preventing sexual risk-taking. Sexual health campaigns, sex education programmes and risk-reduction interventions are most effective when based upon sound empirical research (Michie & Abraham, 2004).

1.1. The Nature of the Constructs of 'Risk' and 'Sexual Risk'

A. Defining Risk

Most definitions of the construct of "risk" include elements of danger, loss, and injury. According to the Oxford English Dictionary (1996), risk is: (a) "a chance or possibility of danger, loss, and injury"; (b) "a person or thing causing a risk or regarded in relation to risk" (p. 877). Some psychologists use the first definition, whereas others view risk tendencies as inherent to people. The concept of risk has different meanings to different individuals, as it is culturally, temporally, and contextually bound. Furthermore, it has been documented that risk behaviours encompass positive connotations as well. According to Benthin, Slovic and Severson (1993), risk takers are regarded as brave, heroic, and adventurous; they are admired by their peers. Thus, in order to label a specific behaviour as 'risky', other things apart from the behaviour per se should be considered, such as who, when, how, and why someone is engaging in this behaviour. Nevertheless, certain activities are inherently dangerous to the individual, regardless of the context in which they are carried out (e.g., smoking, drinking, using drugs, and having unprotected sex).

B. Risk-Taking as Trait

One important aspect of risk-taking involves the study of personality factors.

Some researchers take a general approach to risk-taking; they argue that certain individuals are prone to risk-taking. According to this approach, risk-taking is viewed as a stable personality trait that predisposes people to take risks in general and across a variety of situations. Thus, the same person is more likely to gamble, take drugs, drink, have unprotected sex, and so forth, as compared to a non risk-taker.

Zuckerman's extensive work on *sensation-seeking* clearly reflects this perspective. According to Zuckerman (1979a, 1979b), sensation-seeking is almost synonymous to risk-taking, but it emphasizes physical (bodily) aspects of risk-taking. Sensation-seeking is regarded as a trait, and is measured by the Sensation-Seeking Scale (SSS, 1970). Under this perspective, sensation-seekers have an intrinsic need to experience various, novel, and complex sensations, in order to avoid boredom. Sensation-seekers have been found to: enjoy extreme and aggressive sports, travel extensively, have unconventional lives and friends, like parties, use drugs, be promiscuous, and so forth. Sensation-seeking is assumed to have a biological basis. For example, twin studies have shown high heritability for the trait (Fulker, Eyesenck, & Zuckerman, 1980). Links have been found between degrees of sensation-seeking and levels of certain neurotransmitters, such as norepinephrine (Zuckerman, 1990). Also, links have been estimated between sensation-seeking and levels of the testosterone and estrogen hormones (Daitzman & Zuckerman, 1980).

Cooper, Wood, and Orcutt (1996) reported findings of covariation among adolescent problem behaviours. This covariation is known as *problem-behaviour syndrome*, that is, the general propensity to engage in a range of risky, problematic behaviours (Donovan & Jessor, 1985). Here, risky behaviours are regarded as inter-related, rather than independent activities. Benthin, Slovic, and Severson (1993) evaluated 30 risk-related

activities (e.g., smoking, drinking, sunbathing, driving, having sex, etc), in a sample of high-school children. By using a psychometric and cognitive mapping approach, Benthin et al. concluded that all of the 30 risky behaviours were inter-related and part of the problem-behaviour syndrome.

A large number of studies have employed the "risk-as-trait" approach. Reasons for this trend are: (a) the risk-as-trait approach can be a very good basis for developing a theoretical framework for studying risk; (b) it is intuitively sound; (c) all types of psychological research can be conducted within this framework, ranging from well-controlled biological experiments to unstructured interviews; (d) personality theorists have been a major force in psychology, influencing both the formation of trait-like hypotheses and their testing. Personality theorists have been developing trait measurement scales for years, a fact that has facilitated research in the risk-as-trait perspective. Examples of such scales include: the 16 Personality Factor, developed by Cattell (1965); the Maudsley Personality Inventory (MPI, 1959); the Eysenck Personality Questionnaire (EPQ, 1975). Finally, there is a large amount of evidence supporting the risk-as-trait approach.

C. Risk-Taking as Situation-Specific

According to this approach, risk-taking varies across populations and situations. People are not viewed as having general risk-taking propensities and they are not expected to take risks in a variety of situations. Rather, people are expected to behave differently in different situations. For example, a person may smoke and drink but, at the same time, be a careful driver. Someone else may have unprotected sex but refrain from drinking alcohol. An example of research in this perspective is given by Keyes (1985). He used a case approach and analyzed several risk-takers: gamblers, entrepreneurs, individuals who had drastically changed their lives, a wire-walker, and a skydiver. His results revealed that risk-taking did not generalize across situations and many high-risk takers did not perceive themselves as such. Rather, they viewed

themselves as being able to control the situation instead of leaving things to chance. Slovic (1962) examined the convergence of four risk-taking measures (responding styles to questionnaire tasks, self-report personality measures of risk-taking propensities, games and lotteries, and self-reported ratings of risk-taking behaviours). He found very few inter-correlations among the various measures of risk-taking in different situations, or among different measures of risk-taking within a specific situation. Similarly, Kogan and Wallach (1964) and McCrimmon and Wehrung (1986) found results which corroborated sizeable situation specificity in risk-taking.

Studies that argue for situation specificity in risk-taking do not discard the importance of personality factors, but emphasize the importance of the situation in the shaping of the behaviour in question. Theorists argue that more research is needed in this domain; the study of the context in which risk behaviours occur has been downplayed. According to Yates, (1992) "the evidence strongly supports a conclusion that risk taking varies across populations and situations, but as yet does not give us strong guides as how it varies (p.121)".

D. Risk-Taking as Determined by Traits and Situations: Experimental Studies

Experimental studies have also been conducted in the area of risk-taking. These studies manipulate both personality and situation-specific variables and, as a whole, tend to favour situation-specific explanations. Experimental designs usually employ games as tasks or lotteries as stimuli. In lotteries, participants are asked to make a choice, which will have uncertain results. Games (such as gambling activities) are viewed as metaphors of risk-related decisions. Also, simulations of real-life situations are employed. Although experiments in the area of risk-taking have been criticized on the basis of their validity and generalizability in realistic situations, they represent a large body of risk-taking research. Games and lotteries are choice situations where personality differences

can be studied. In addition, gambling activities, such as card games, bets, and so forth, exist in similar forms in the real world.

Several experimental studies have used McClelland's (1960) *need of achievement* construct to show that individual differences in risk-taking relate to different dispositions to achievement and avoiding failure. According to McClelland, need of achievement (nAch) is a rather stable personality trait that reflects one's general tendency toward achieving success and avoiding failure. People differ in their levels of nAch, and this can be assessed by nAch measurement scales. Atkinson and Litwin's (1960) study provides an example of how nAch is employed in risk-taking experiments: once nAch levels were measured, participants had to choose the distance from which they tossed a ring onto a peg (the game task). The results showed that participants high in nAch scores tended to throw the ring from intermediate distances, thus indicating a preference for intermediate levels of risk-taking. Participants low in nAch chose short or long distances, thus reflecting less preference for intermediate levels of risk-taking. These results have been replicated by other researchers (e.g., Hamilton, 1974; Atkinson, 1983). However, correlations like the ones above are typically not very strong (Yates, 1992), and a host of experiments have yielded mixed results regarding the effects of gender, age, race, and education on risk-taking. Yates (1992) assumes that these mixed results point to the need for a situational approach in the study of risk-taking. Thus, one might argue that experimental studies have indirectly supported a situation-specific approach to risk taking, by demonstrating weak correlations between personality traits and risk choices; and by yielding mixed results regarding the effects of gender, age, ethnicity, educational and economic background on risk choices.

In conclusion, the literature suggests that the optimal approach to study risky behaviours is a personality-by-situation approach. This could be especially true regarding risky sexual practices. There is a recurring idea in all perspectives examining sexual risk-taking: sexual behaviours and related risks are quite different than other types of risky activities

(Katz et al., 2000; Leigh, 1999; Leigh & Stall, 1993; Schwarzer, 1999). Sexual risk-taking might be better studied as a unique activity caused by a combination of internal states and situational factors. Even researchers who argue for general deviance models tend to agree on this (e.g., Cooper et al, 1996). It is more complicated to study risky decisions and choices regarding sexual activities, as compared to other risky behaviours. One reason is that sex requires the participation of two people; thus, the decision-making processes involved in a human interaction are more intricate, as compared to the decision making process engaged by one person alone.

1.2. Commonalities in Risk Research

Issues of age, emotion, gender, and culture are central to the investigation of risk, in general, and sexual risk, in particular.

A. The Relationship Between Risk-Taking and Age

A commonly held belief is that risk-taking decreases with age. Adolescents are assumed to be engaging in most risky behaviours. Thus, according to a popular view, risk-taking activities peak in adolescence, but the onset of adulthood marks a steady decline in these activities. The above notion is intuitively appealing and emphasized by the media. Indeed, it is not only the layperson that views adolescence as a turbulent and trouble-seeking life stage; a lot of developmental researchers share the same view. As a result, the amount of risk-taking research conducted with adolescent participants is enormous. However, the idea that adolescents engage in most risky behaviours, as compared to all other age groups may be a myth, or at least an over-estimation of the real situation for the following reasons:

Firstly, very few longitudinal studies have been conducted regarding risk-taking, and those that have been conducted are statistical, event-based studies (Jeffrey, 1989). These studies typically report high

rates of injuries and diseases involving teenagers, but provide no insights into the psychosocial factors responsible for these high occurrences.

Secondly, there are several factors contributing to the high visibility of teenage risk-taking, such as lack of privacy, indifference towards adult conventions, lack of money to cover for legal representation, and the like.

Thirdly, if it is true that risk-taking peaks during adolescence then risky decisions should improve with age, per se. However, when decisions and choices about risks are situation-specific, experience provides less guidance, especially in novel situations (Botvin, 1983).

It is not simple to interpret the relationship between risk-taking and age. For example, Jacobs-Quadrel (1990) administered the same ability and performance tests to groups of adolescents and adults. According to her results, both adult and adolescent groups performed similarly on tests dealing with general knowledge and risk knowledge. Furthermore, she found that adolescents and adults that came from the same middle-class population had very similar performances. However, a group of at-risk teenagers coming from rehabilitation centres, performed much poorly: in the risk-related questions, they demonstrated less knowledge but expressed greater confidence in their risk-related choices, than the middle-class adolescent group.

Based on the above considerations it can be argued that a more reasonable age group for risk research is early adulthood. Katz, Fromme, and D'Amico (2000) consider the early college years as a particularly high-risk period. In their longitudinal study of drug use, heavy drinking, and sexual risk, Katz et al. tested the same sample twice. At Time 1, reports of risk-taking behaviours covered the last months of high school and the summer before college. At Time 2, reports covered the first academic year. The researchers found a significant increase in risky behaviours during Time 2. Increase in risk-taking was not attributed to developmental issues, but rather to factors such as freedom from adult supervision and increased opportunities for sex, drugs, and alcohol.

Similarly, Temple and Leigh (1992) and Leigh (1999), regard early adulthood as the period for most sexual risk-taking. These investigators

view early adulthood as a period of sex experimentation before a serious relationship or marriage. Furthermore, young adults tend to have more short-term relationships, more serial romantic experiences, and more sexual partners than teenagers and older adults. Leigh (1999) also argues that the assumption that teenagers engage in more risk-taking that the other age groups, is not based on scientific evidence, but rather, on a stereotypical view of adolescence.

B. The Relationship Between Emotion and Risk-Taking

Psychological research has tried to answer questions such as: do intense emotions affect risk choices? How do positive and negative emotions affect risk-taking?

Research has provided insights to these questions primarily by problem-solving and decision-making approaches, that is, from a social-cognitive perspective.

i. Stress and risk-taking.

Janis and Mann's (1977) conflict theory has been used to demonstrate how stress influences risk-taking. Although conflict theory has been put forth as an explanatory model of stress effects, it might be best regarded as descriptive in nature. Other researchers agree with this point (Papadatou & Anagnostopoulos, 1999; Schwarzer, 1999). The model describes a decision-making process people go through when they face a health-related challenge and, in particular, a worrying symptom. To illustrate, the decision-making process begins with the individual assessing the gravity of personal symptomatology. If the individual regards the symptom as threatening, they may decide to do something about it; if not, adherence to health (or illness) behaviours may prevail. In the case where the symptom is perceived as threatening, the individual considers alternative optimal health-related behaviours and judges their effectiveness. Next, the individual decides to commit to the optimal alternative behaviour. Finally, the individual insists on the implementation of the optimal behaviour, despite possible negative

feedback from significant others. This decision-making process causes considerable stress because the individual is in *conflict* regarding the best course of action (e.g., "should I stick to my present, well-known tactics or should I change them"?). In order to resolve this conflict the individual may use one of the following three coping patterns, which will eventually have a bearing on risk-taking:

1. The individual labels current behaviours as risky, is in conflict about what to do, and has low levels of stress combined with high levels of pessimism regarding personal ability to find a good alternative behaviour. This conflict situation will most probably lead to a pattern of *defensive-avoidant* behaviours (e.g., avoiding and delaying the decision, extensive use of defense mechanisms, etc).

2. The individual labels current activities as risky, is in conflict about what to do, and has high levels of stress combined with a sense of extreme time pressure to find a good alternative behaviour. This conflict situation will most probably lead to a pattern of *hypervigilant* behaviours (e.g., emotionality, impulsivity, reduced memory span, simplistic thinking, panic; states that, in effect, breed more risk-taking.)

3. The individual labels current behaviours as risky, is in conflict about what to do and has a moderate stress level. At the same time, the individual is confident of finding a viable solution, whilst feeling no time pressure. This conflict situation will most probably lead to an adaptive pattern of *vigilant* activities (e.g., actively seeking relevant information regarding options and critically assessing them and gradually reaching an optimal low-risk decision).

Thus, based on Janis and Mann (1977), risk-taking is a result of highly stressful situations, in which the person feels extreme time pressure to find an optimal solution. The ideal situation is to have medium levels of stress (which energize the individual to act), combined with confidence of being able to find viable solutions, under no time pressure.

ii. Positive affect and risk-taking.

The relationship between positive affect and risk-taking has been extensively studied experimentally. Commonly, participants are induced in a positive mood by methods such as reading a pleasant story, watching a funny film, or being given presents. Next, participants are asked to perform on tasks that entail various levels of risk (low, medium, and high). Usually, these are gambling tasks. Isen, Nygren, and Ashby (1988), and Murray, Sujan, Hirt, and Sujan (1990) conducted a series of such experiments and found that positive affect promoted an interest in gambling when the risk of losing was low. Positive affect had no effect when the risk of losing was moderate, and positive affect inhibited an interest in gambling when the risk of losing was high. However, different results were found when the task changed to a more realistic one (participants had to choose between hypothetical real-life dilemmas, which contained various levels of risk). Positive-affect participants did not differ from neutral-affect participants in their willingness to make risky decisions in the low-risk condition. Yet, positive-affect participants were more willing to take risks in the high- risk condition. Finally, positive affect had an influence on the quality of decision-making. Happy participants tended to simplify a decision problem and this produced either sloppy decision-making or effective decision-making, depending on the decision situation; if the task was important and required creative thinking, then a happy mood often stimulated efficient information-processing strategies, and enhanced task performance. If, however, the task was trivial and uninteresting, happy participants made more errors and exhibited ineffective task performance.

A number of studies have been conducted regarding optimistic emotions and their influence on risk-taking (e.g., Schwarzer, 1994; Weinstein, 1982). Studies in this area have yielded inconsistent results; some have found that optimistic people display better health behaviours, but others have suggested that optimistic people take more risks. In order to reconcile these mixed results, Schwarzer (1999) made a distinction between *defensive* optimism and *functional* optimism.

Defensive optimism is reflected in biased risk-perception; this is a typical case of *optimistic bias* (Weinstein, 1983), where people perceive themselves as being less at risk for severe diseases and other predicaments, as compared to their peers. As a result of defensive optimism/optimistic bias, people take less precautions and more health-related risks. On the other hand, functional optimism is reflected in peoples' beliefs that they are capable of coping with health-threatening issues and adversity. As a result, they feel strong and able to refrain from activities that would tax their health. Moreover, when faced with a symptom or with a disease, they actively deal with it (e.g., read into it, visit health professionals, etc). Therefore, optimistic mood may either facilitate or impede health risk behaviours.

According to Baumeister and Heatherton (1996) a generally optimistic person may fall prey to optimistic bias, and not perceive her own vulnerability towards danger. However, the optimistic individual can also be easily made aware of being at risk, shifting, thus, her mindset towards functional optimism and displaying health-promoting behaviours. It seems, therefore, that 'positive thinking' is not a generally adaptive mechanism; rather, it depends on context.

iii. Negative mood and risk-taking.

Less research has been conducted on negative mood and risk taking. It seems that transient negative mood, stress, anxiety, and severe depression, follow a similar pattern: these feelings are associated with narrow and inefficient information processing, selective attention to risks at the expense of benefits, reluctance to make choices, and self-defeating behaviours (Forgas, 1989). To illustrate, Pietromonaco and Rook (1987) conducted an experiment with depressed and non-depressed college students. Participants were administered 10 decision scenarios and a list of potential benefits and risks inherent to these scenarios; the participants' task was to rate the benefits and risks on a number of specified criteria. In general, depressed students overestimated potential risks and underestimated potential benefits, as compared to their non-

depressed counterparts. Also, depressed students were more reluctant to take the action specified in the scenarios.

The explanations of the effects of mood on risk-taking usually come from a cognitive psychology framework. Fisk and Taylor (1984) have put forth *mood-memory* models, which are based on the *priming effect.* Specifically, a positive mood should: (a) prime the recall of positive memories; (b) prompt one to think about the good consequences of choices; and (c) help one to follow through on decisions because one is optimistic. By contrast, a negative mood should: (a) prime the recall of negative items; (b) prompt thoughts about losses associated with choice alternatives; and (c) postpone action. Cognitive mood-memory models provide a rather simplistic explanation of the effects of mood on risk-taking; as shown above, studies in the area of conflict theory and optimistic bias, have revealed a much more elaborate state of affairs.

C. Gender as a Variable for Risk-Taking Research

An issue that has stimulated considerable debate is whether gender is a valid variable for risk-taking research.

It is a popular belief that men are, by nature, risk-takers whereas women are not. Women are considered to be cautious and not drawn to adventure. Empirical investigation has tried to uncover the plausibility of such beliefs and to find out if men and women differ in their risk-taking activities. A plethora of studies have shown that men, in general, take more risks than women do. These studies are correlational, that is, they demonstrate associations but not causations between risk-taking and gender. Little is mentioned about what underlies or causes these gender differences.

It is argued here that gender is an 'easy' variable to locate, manipulate, and subsequently, yield significant correlations. It is a variable that can be inserted in every study, and many a times the use of gender is not justified. It could be that some researchers use this variable in correlational studies for the sake of a statistically significant result, without providing a sound reason for doing so. Moreover, when gender

effects are established, a satisfactory explanation of what this effect actually means is seldom provided. Thus, simply stating gender differences in risk-taking may intensify already existing sex stereotypes (e.g., women are inherently careful, conscientious, and down to earth and men are inherently adventurous, careless, and impulsive). However, gender differences, in any domain of human interaction, not only reflect innate biological variations, but also variations in socialization patterns, determined by one's culture, family, and education. Therefore, unless the above issues are accounted for, the use of gender, as a main study variable, may not be meaningful. Furthermore, many studies have shown that men and women do not differ in the amount, but in the type, of risk-taking. For example, Wallach and Kogan (1959) have shown that women tend to take more risks in relation to career and marriage issues, whereas men tend to take more risks in relation to issues such as income and sports. Semple, Patterson, and Grant (2002), in their study of gender differences in the sexual risk practices of HIV+ heterosexual men and women, also revealed the complex nature of the issue. HIV+ women reported more acts of unprotected vaginal sex, as compared to men, and their justification was the partner's refusal to use a condom. Conversely, HIV+ men reported more acts of receptive oral sex, as compared to women, and their justification was the partner's not demanding condom use.

D. Culture as a Variable in Risk Research

Cultural factors, such as nationality, ethnicity, religion, politics, economy, and geography affect all areas of human life, including risk-taking and sexual practices. According to Stone and Ingham (2002), peoples' sexual and safe-sex behaviours are best studied whilst taking into consideration the wider social and structural contexts in which they occur. Ethnicity is a key variable, as it "...describes cultural or learned factors which distinguish groups and implies that an individual's socialization is part of a collective identity that is culturally based" (Davidson, Fenton, & Mahtani, 2002, p. 84). Therefore, ethnicity allows

for the study of the overall context of sexual relationships and relevant mores and values, as they are transmitted through generations. It can be enlightening to take into consideration cultural differences in sexual risk research; at the very least, cross-cultural studies can establish ethnic differences in sexual risk-taking. The existence of ethnic differences in sexual risk-taking can serve as the basis of further research regarding other, more specific cultural factors. For example, once cultural/ethnic differences are measured in safe-sex choices, analysis can be directed to governmental decisions regarding medical practices and intervention strategies.

Ethnic differences in reproductive behaviours and sexual health have been documented in several western countries. For example, in the United States, rates of STDs, such as syphilis, gonorrhoea and HIV/AIDS, are disproportionately high for African Americans, as compared to other ethnicities in the country (Otten, Zaidi, Peterman, Rolfs, & Witte, 1994).

According to Davidson et al. (2002) in the UK, ethnicity data regarding the epidemiology of STDs has been poorly recorded in the past; nevertheless, recent evidence from genitourinary medicine (GUM) clinics and community surveys has demonstrated a relationship between ethnicity, sexual attitudes and practices, and STD prevalence. To illustrate, in the UK, recent reports state that the relative risk for reported cases of AIDS for the year 1994-1995 was 20 times higher for African adults and 355 times higher for African children, as compared to non-African inhabitants (De Cock & Low, 1997).

Within the European region, there have been significant differences in reported AIDS/HIV cases. According to the European Centre for the Epidemiological Monitoring of AIDS, regarding the year 2003, in the UK, 56,763 (101.1 cases per million) were reported, whereas in Greece, 6,521 (37.9 cases per million) were reported. The lowest HIV numbers in Europe were 146 reported cases in Iceland and 39 cases in San Marino.

Despite findings of studies reporting the impact of the specific culture on contraceptive behaviours and sexual risk, the psychological

models used to study these behaviours are based only on Western-industrialized cultures, European and American. For example, all of the widely employed theoretical models emphasize subjective personal beliefs, intentions, and goal attainment. This premium placed on individualism and personal control reflects a Western way of life; cross-cultural comparisons may reveal differences in attitudes and behaviours and thus warrant further research.

1.3. Emerging Issues

Chapter 1 pointed out general issues relating to risk-taking research which will be addressed in the current thesis.

Firstly, the debate of whether risk-taking is a personality or situation-specific phenomenon is best resolved by compromising the two positions. Data exists to support both stances (e.g.: Benthin, Slovic, & Severson, 1993; Keyes, 1985). Yet, as is generally accepted in psychology, human activity is explained via a combination of intrapersonal and interpersonal factors; risk-taking is no exception. Therefore, the current study investigates both intrapersonal (i.e.: cognitive) and interpersonal variables (i.e.: culture, relationship status) regarding sexual risk-taking.

In relation to demographic factors, previous research has revealed that the emphasis given on teenage risk-taking may well be an over-estimation (Jeffrey, 1989). A better age group for the study of risk taking could be the early adulthood/undergraduate years, due to factors such as freedom from adult supervision and increased opportunities for sex, drugs, and alcohol (Leigh, 1999). Regarding gender influences on risk-taking, research has yielded inconsistent and mixed results. Although traditionally men have been assumed to take more risks (and this has been documented in psychological research), it is most likely that men and women do not differ in the amount but in the type of risks taken (Semple, Patterson, & Grant, 2002). It may not be justified to manipulate gender as a main variable in risk-taking research which is correlational

in nature. Finally, ethnic differences in risk behaviours and sexual health have been documented in several western countries (Davidson, Fenton, & Mahtani, 2002). Ethnic differences serve as the basis of further research emphasizing other, more specific cultural factors.

In the light of the above, the following decisions were made for this thesis: (a) participants would be undergraduates; (b) gender would be manipulated as a demographic variable but not as a potential predictor of sexual risk-taking; (c) cross-cultural differences would be explored, between British and Greek participants.

Finally, emotion emerged as a factor influencing risk-taking, with positive and optimistic affect, generally, leading to enhanced risk-taking (Baumeister & Heatherton, 1996). It is suggested here that sexual intercourse per se evokes strong emotions, especially when it is experienced in an exclusive relationship. Feelings and thoughts experienced as a function of relationship status will be addressed in this thesis.

Chapter 2.
Theoretical Models Used to Study
Health and Risk Behaviours in Psychology

This chapter includes an extensive literature review of studies in the area of risk-taking in general and sexual risk, in particular. The main theoretical frameworks used in risk research are critically presented, and additions to these frameworks are suggested.

Currently, there are no psychological theories developed specifically for the description and explanation of risk-taking activities. Researchers have at their disposal several theoretical models that aim to conceptualize health-related behaviours and those are extended to include risk-taking, as well. These models share a common assumption: peoples' perceptions, beliefs, and cognitions lead to behaviour. Consequently, these models are known as *socio-cognitive* or as *social cognition* theories, as they regard people as rational creatures who think before they act.

2.1. Socio-cognitive Theories

A. The Health Belief Model (HBM)

The HBM was originally formulated by Rosenstock in 1966. The HBM has been reformulated many times (e.g., Becker & Mainman, 1975; Janz & Becker, 1984), and perhaps one shouldn't think in terms of a single HBM. However, all versions of the HBM postulate the following processes.

When people identify potential health threats (e.g., smoking could harm me) and consider changing their behaviour regarding this threat, it is not enough to have information about the threat (e.g., doctors' warnings, newspaper articles, etc). People must be ready to act towards taking precautions. 'Readiness to act' will depend on subjective perception regarding susceptibility to the health threat (e.g., I might get lung cancer); and subjective perception regarding the seriousness and the consequences of the health threat (e.g., lung cancer is a serious disease and I could die from it).

Three additional factors influence the actual health behaviour: (a) modifying factors including demographic variables (e.g., sex, ethnicity) and psychosocial variables (e.g., personality, social class); (b) subjective evaluations of the costs and benefits for adopting health behaviours (e.g., stopping smoking may result in gaining weight); (c) stimuli that serve as cues for action and significantly determine the end result (e.g., internal body symptoms, like sore throat, coughing and phlegm after smoking, and external cues, like the appearance of lung cancer in a family member).

Sheeran and Abraham (1994) used the HBM to investigate teenage condom use in Scotland and they pointed out certain problems with the model. According to the results, HBM components did not predict condom use and HIV preventive behaviour. In particular, the female sample yielded no relationship between intention to use condoms and actual condom use. For men, there was a small significant relationship between intention and action. It was suggested that subjective beliefs and perceptions are not the only factors that lead to actual health behaviours.

Thus, although the HBM has been used extensively to predict health-related behaviours, these efforts have yielded mixed results, mainly due to the complexity of the model, its several reformulations, and the wide variation of measures used to assess the individual elements of the model (Yates, 1992). Moreover, the HBM does not include factors such as behavioural intentions and subjective norms, which have been repeatedly shown to be strong predictors of behaviour (Conner & Norman, 1995).

B. The Protection Motivation Theory (PMT)

The PMT was originally formulated by Rogers in 1975. It postulates that a health threat (e.g., I am constantly short of breath, I've gained a lot of weight) which causes fear, stress, tension, and dysphoria regarding a health problem, leads to a process of cognitive evaluation. This evaluation will be based on: the perceived severity of the health-related threat (e.g., being constantly short of breath is a serious symptom); the possibility of

getting sick (e.g., if I don't start exercising, I will definitely be obese); and the perceived effectiveness of the proposed health behaviour, also called response efficacy (e.g., working out at the gym will make me look and feel healthy). The model encompasses the *self-efficacy* construct. Self-efficacy refers to the extent to which the people believe that they can perform the adaptive health behaviour (e.g., I can find the money and the time to go to the gym). Self-efficacy and response efficacy will affect one's intention to actually adopt the desired health behaviour.

Finally, the PMT posits that in the face of a threat that induces fear, people will probably adopt one of the two following strategies: *precaution* or *hyper-defensiveness*. In the case of precaution, people adopt the health behaviour in question because they believe in the effectiveness of that behaviour. In the case of hyper-defensiveness, people adopt a health behaviour just to be on the safe side.

Kanvil and Umeh (2000), used both the HBM and the PMT to investigate smoking and the threats posed by lung cancer, in a group of 275 undergraduates. Their aim was to predict intentions to smoke and explain motivations to smoke from features of both models (e.g., fear, perceived vulnerability, age, and gender). According to the results, only 3% of motivation to smoke was predicted by cognitive factors. That is 97% of the participants' responses had nothing to do with fear, perceived threat, vulnerability, intentions, self-efficacy, and the like. The prediction improved to 70% when past behaviour was incorporated in the regression equation, implying that the motivation to smoke was best predicted by whether or not one smoked in the past.

The susceptibility, severity and response-efficacy components of the PMT originate from the HBM, whilst the self-efficacy component originates from Bandura's self-efficacy theory (Bandura, 1977). The same criticism that was put forth for the HBM applies here too: the conception of the PMT as a 'hybrid' theory (Prentice-Dunn & Rogers, 1983) reduces it to a collection of cognitive variables with ambiguous inter-relationships. Both the HBM and PMT variables are not conceptualized and

operationalized in a way to form coherent theories (Conner & Norman, 1995).

Finally, as put forth in the Kanvil and Umeh (2000) study, a significant predictor of health behavior, namely 'past behaviour' is missing from the HBM and PMT. With the exception of Triandis' (1980) health model, past behaviour, as a significant predictor of intended and future behaviour, is excluded from the social-cognition models. However, more recent research has shown that not taking into consideration past behaviour (habits) whilst explaining future behaviour may be inappropriate in risk research (Norman, Conner, & Bell, 2000; Rhodes & Courneya, 2003a; Sutton, 1994; Umeh & Patel, 2004).

C. Modified Social Learning Theory

The modified social learning theory was conceptualized by Wallston (1991; 1992).

This theory extends Rotter's (1966) *locus of control* construct as a generalized expectancy. Rotter distinguished between internal and external locus of control orientations. 'Internals' tend to believe that events are a consequence of their own actions, whereas 'externals' tend to believe that events are determined by factors beyond their control (e.g., chance).

Due to the fact that locus of control has been repeatedly found to be a weak predictor of health behaviour (e.g., Wallston, 1991), Wallston (1991; 1992) decided to add locus of control into a more general social-learning framework. Specifically, the modified social learning theory postulates that people largely shape their behaviour via observation, and via the consequences of their behaviour. This theory emphasizes the importance of role models in a person's life, since people tend to imitate role models' behaviour. Social learning theory further predicts that people will be most likely to adopt a health behaviour if they:

1. Anticipate that the health behaviour will lead to better health. In this case, prior experience will play an important role (e.g., if certain

health behaviours have worked in the past, the person will be likely to adopt a similar health behaviour pattern in the future).

2. Regard the feeling of 'good health' that results from health activities as important. Basically, this is an application of operant conditioning principles (e.g., feelings of good health and prosperity may function as intrinsic rewards to solidify the health activity).

3. Believe that their health depends on their own actions (internal health locus of control), and not on external factors, such as fate (external health locus of control).

4. Believe that they are capable of performing the adaptive health behaviour (self-efficacy).

The strength of this theory is that it is based on cognitive and behavioural factors which have been extensively studied and proven experimentally: operant conditioning has been established by Skinner (1963), role modeling and self-efficacy have been demonstrated by Bandura (1989), and locus of control has been demonstrated by Rotter (1972). Nevertheless, like the HBM and PMT, the modified social learning theory is a 'hybrid' theory; it does not stand as a coherent, unique approach to explaining health and risk behaviours. Moreover, as Wallston (1991; 1992) has put forth, locus of control is a weak predictor of health behaviours, even within the modified version of social learning theory. Thus, it has been suggested that health locus of control could be abandoned completely (Conner & Norman, 1995) from the model.

D. Triandis' Health Model

According to Triandis (1980), the likelihood that a health related behaviour is adopted depends on the person's habits, psychological vigilance, and the specific situation.

Specifically, *past behaviour* or *habits* urge people to behave in a similar fashion in the future. This is in accordance with social learning theory. The individual's psychological vigilance, motives, interest in exhibiting a specific behaviour, and the excitation of the autonomic nervous system (arousal), all contribute to readiness to act. Intentions to

perform an adaptive behaviour are, basically, *directions* that the people impose on themselves (e.g., if I act this way, I will reach my goal). These intentions depend upon: the individual's values and ethics in relation to the proposed behaviour; the individual's emotional stance towards the behaviour (if the behaviour is regarded as pleasurable or not), which also depends on previous experience; and the evaluation of the consequences of the health-related behaviour. Nevertheless, even if intentions are strong, habits are consolidated, and the nervous system is aroused, the individual will not adopt a specific behaviour unless it is facilitated by the context of the situation. If the context is not favourable, then the behaviour might not be adopted. A typical example relates to condom use. An individual may intend to use condoms, may have used them in the past, the body may be aroused and motivated to do so, yet, the situation might not be optimal; at the moment of intercourse, neither partner has condoms. In such a situation, there is an increased possibility that the couple will have unprotected sex, despite their initial intentions not to.

Triandis' model has received empirical support; for example, Seibold and Ropper (1980) have applied it successfully to women's intention to go for pap smears.

This approach is a useful addition to the social cognition models, as it takes into account the individual's habits and emotional arousal in explaining and predicting health and risk behaviours. Triandis challenges the hegemony of cognitive-based models, by treating previous behaviour as an intrinsically important variable and not as an external influence.

E. Self-Regulation Theory

Self-regulation theory (Leventhal, Safer, & Panagis, 1983) is an explanatory model of how people decide which health behaviours to adopt when there is a clear threat, or evidence, regarding a disease condition. This theory integrates some of the cognitive factors from the HBM with emotion-related factors, especially fear emotions. According to self-regulation theory, people are generally motivated to regulate their own

behaviours in order to escape health dangers. People gather information from observing their environment and from recalling their previous experiences; then they make plans to deal with health threats and diseases.

Self-regulation theory is based upon the *dual process* model (Leventhal, 1970), which postulates that an individual reacts both cognitively and emotionally to health issues. The twist here is, however, that cognitive and emotional elements can be independent of each other, that is, they may be mutually interfering or facilitating. Interference takes place when the emotional reaction (fear) is incompatible with the behaviour demanded by the objective task. For instance, women who have discomforting vaginal secretions may avoid having their pap smear if they fear that the test might show cervical cancer; thus, their response to fear is avoidance. Conversely, facilitation takes place when emotional reactions are compatible with the behaviour demanded by the objective task. For example, a woman may have her Pap smear frequently, because she is afraid of pain and vaginal discomfort. This fear might be based on her own previous experiences with gynecological problems, or on observing other women's problems.

Also, self-regulation theory points out the fact that fear must be manipulated carefully, especially when designing intervention programmes. It is not enough to give people fear-provoking messages about risky activities. These messages must be accompanied with specific instructions about how to deal with the threat. It is possible that intervention programmes that emphasize making people afraid or disgusted (and indeed, this approach has been extensively used, especially by the media) may not have the desired behaviour-changing effects. Velonakis and Trichopoulou (1986) argue that people may doubt the validity of high-fear inducing messages. Also, interventions that stir strong emotions can "paralyze" the individual, and mobilize anxiety-reducing defense mechanisms. Finally, high-fear inducing interventions may present the risky behaviour in a mysterious and desirable light, thus provoking people to try it.

F. The AIDS Risk Reduction Model (ARRM)

The ARRM (Catania, Kegeles, & Coates, 1990) is a model constructed specifically to help explain and control AIDS risk behaviours. The ARRM incorporates constructs of the models described above. Specifically, it posits that people typically go through the following three stages in order to reduce or change sexual activities that are risky for HIV spread.

1. Identifying and labeling certain behaviours as risky. Such a label will depend on: (a) knowledge of how HIV is transmitted - a necessary but insufficient condition to identify high-risk sexual activities; (b) perceived personal susceptibility to AIDS; (c) the influence of social norms in relation to sexual risk.

2. Committing to low risk activities. At this point, the individual has labeled unprotected sex as risky. Yet, the likelihood that the individual will commit to low risk sexual activities (e.g. condom use), will depend on two factors: (a) the subjective estimation of costs and benefits of continuing the past behaviour versus changing the past behaviour. If, for example, people engage in unprotected sex and estimate that condom use could result in arguments and strain their relationship, they may hesitate to change risky behaviour; (b) self-efficacy beliefs. Individuals must feel capable of engaging in activities that will prevent them from HIV. For example, they must feel comfortable with buying condoms, using them, and negotiating their use with partners.

3. Modifying risky behaviour. At this point, the individual has committed to changing risky sex-related practices. The likelihood that commitment will lead to actual behaviour change will depend on: (a) the individual's proficiency in negotiating condom use with partner; (b) the individual's access to social support (e.g., ease of finding condoms, having information about condoms, AIDS, STDs, and so forth).

The ARRM is a rather new approach to sexual risk and has not been fully validated, however, it points out a number of variables that need to be taken into consideration when interventions are designed (Yates, 1992). Because the ARRM is a collection of variables from other

social-cognition theories (e.g., perceived personal susceptibility to AIDS is borrowed from the HBM, self-efficacy is taken from the PMT), it does not stand as a theory in its own right and, moreover, it is subjected to the criticisms relevant to each of the aforementioned theories. Although it has been formulated with regard to HIV-related behaviours, the ARRM is not the preferred theoretical perspective of sexual-risk investigators.

G. The Theories of Reasoned Action (TRA) and Planned Behaviour (TPB)

The TRA/TPB are described here in considerable detail because they comprise the main theoretical frameworks of this thesis. The reasons for choosing the TRA/TPB as a theoretical basis of this thesis include: (a) compared to the other social-cognition models, the TRA/TPB are the most coherent and self-contained models; (c) they incorporate important cognitive variables which help determine health behaviours (i.e., attitudes, intentions, social pressure, perceived behavioural control); (d) they have been widely tested and successfully applied to the study of health and risk behaviours; and (e) they state a clear causal ordering among constructs regarding how they relate to behaviour, allowing for elaborate statistical analyses to be conducted and applied to the assessment of the models themselves.

i. Origins.

The TPB (Ajzen, 1985; 1991) is an extension of the TRA (Ajzen & Fishbein, 1975). The TRA postulates that the principal cause of a behaviour is the individual's *intention* to engage in that particular behaviour. Intentions themselves are determined by two other constructs: *attitudes* toward the behaviour and *subjective norms*. Attitudes consist of the individual's approval or disapproval of the behaviour; attitudes are personal evaluations of a behaviour. Subjective norms consist of the individual's beliefs about whether significant others (e.g., family, friends) think he or she should engage in the behaviour. To elaborate, according to the TRA, peoples' decision to use a condom may be determined by their: (a) favourable attitude towards contraception in general, and

condoms, in particular; and (b) the partner's approval of using a condom. Attitudes and norms mediate peoples' intention to actually use condoms. In this theoretical framework, intentions are almost equated to actions - intentions are conceived as reflections of actual behaviour.

The TRA applies best to *volitional* behaviours (Fishbein, 1993), that is, behaviours under one's own control. Behaviours which require additional skills, resources, opportunities, or the cooperation of others, may not be adequately predicted by the TRA. Thus, Ajzen (1985) extended the TRA to include non-volitional activities by adding the construct of *perceived behavioural control (PBC)*. PBC is the subjective perception of one's ability to perform a behaviour. Ajzen suggests that people will most likely perform desirable behaviours they have control over. Actual control is difficult to measure; therefore, perceptions of control (PBC) are measured as proxy measures of actual control. Returning to the previous example, the TPB suggests that peoples' decision to use a condom will be determined by their: (a) positive attitude towards condoms; (b) partner's approval of using a condom; and (c) their perceived control over using condoms. These three factors will influence the intention towards actually using condoms.

ii. Determinants of TPB Constructs.

Intentions. Intentions are determined by attitudes, subjective norms, and PBC. PBC is closely related to the construct of *self-efficacy* (Bandura, 1989), which refers to confidence in personal ability to carry out a particular behaviour. Ajzen (1991) states that PBC is derived from self-efficacy, whereas other researchers argue that PBC and self-efficacy are indistinguishable (Schwarzer, 1992). Behavioural intentions can be conceptualized as a linear regression, where intentions are functions of one's evaluation of the behaviour, the perception of what significant others think of the behaviour, and the perception of control over the behaviour in question.

Attitudes. Attitudes are determined by salient behavioural beliefs, which relate to the perceived consequences of the behaviour. It is not

assumed that each time people are faced with a decision they will estimate the situation anew and calculate the consequences. This process has happened once and is retained in memory; the results of this process are retrieved and used when necessary, almost automatically (Eagly & Chaiken, 1993).

Subjective norms. Subjective norms are determined by normative beliefs, that is, the perceptions of significant others' preferences regarding whether or not one should perform a specific behaviour. Normative beliefs do not consist of referents' actual approval of a behaviour; they consist of the individual's subjective perception regarding referents' approval of a behaviour. Also, subjective norms refer to the degree people want to comply with referents' (dis)approval of a behaivour.

Perceived behavioural control. PBC is determined by beliefs regarding whether one has the ability to perform the behaviour in question successfully. Successful performance of a behaviour depends on both internal control factors (skills, abilities, emotions, information, money, etc), and external control factors (barriers, dependence on others, etc). Individuals who believe that they do not face external obstacles are assumed to have a high degree of PBC. A graphical representation of the TPB is provided below.

The Theory of Planned Behaviour

(Ajzen, 1985, 1988, 1991)
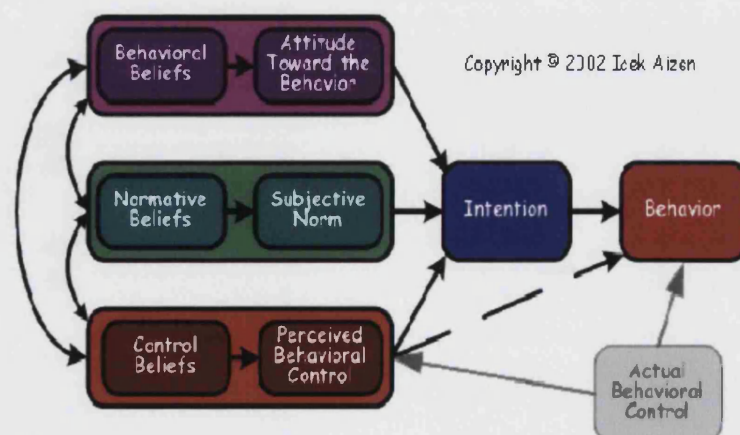
iii. Constructing a TPB Questionnaire.

Investigators are required to construct their own TPB questionnaire with every new study, as a standard TPB questionnaire – to be generally used in research - does not exist. Indeed, researchers are free to decide how to construct and analyze TPB measures, based on the specific requirements of their investigations (Ajzen, 1991; Conner & Norman, 1995). Nevertheless, Ajzen (1991) has suggested certain guidelines for the construction of adequate TPB measures.

1. The behaviour of interest should be defined in terms of its target, action, context, and time (TACT). To illustrate, in the behaviour *working out aerobically at the gym for at least 20 minutes, three times a week, during the last six months,* the elements of TACT consist of: 'working out for 20 minutes, three times a week' (action element); 'aerobically' (target); 'at the gym' (context); and 'during the last six months' (time element). Not all health and risk behaviours can be operationalized with such precision but an effort should be made for maximum specificity. For example, sexual risk activities, such as non-condom use, can easily be defined in terms of action and time, but the context and the target may be elusive.

2. All variables of the TPB should best follow the *principle of compatibility,* which requires that attitudes, PBC, intentions, and subjective norms be defined in terms of exactly the same elements. Following the previous example, the attitude compatible with the behaviour is the attitude towards 'working out aerobically at the gym for at least 20 minutes, in the last six months'. PBC is the ability of 'working out aerobically at the gym for at least 20 minutes, during the last six months'. Similarly, subjective norm is the perceived social pressure to perform the defined behaviour.

3. Issues of *specificity and generality.* Religious adherence to TACT elements restricts the measurement of related behaviours. It is possible to increase the generality of TACT elements through *aggregation.* Using the same example, 'working out aerobically' can be measured irrespective of the context. By not defining the context, the generality of the behaviour in all relevant contexts is increased. Defining the behaviour as: 'working

out aerobically for at least 20 minutes, three times a week, during the last six months' (irrespective of place of exercise), may give more realistic and valid measures. The level of specificity and generality is determined by the objectives of each study, however, a minimum specification of an action and time element is necessary (Conner & Norman, 1995).

Assessing the Behaviour

Once the behaviour is defined according to its TACT elements, it can be assessed by simple self-reports of whether or not the behaviour was performed. For example, the item: "I worked out aerobically three times a week during the last six months" could be used. According to Ajzen (2002b), it is best to use more than one measure of the behaviour in question in order to maximize reliability.

Assessing Intentions

Intentions are traditionally defined as the perceived judgments of how the individual intends to act. To continue with the example of physical activity, a typical intention item could be "I intend to work out aerobically three times a week in the next six months". In assessing intentions too, it is advisable to use multiple-item measures to ensure reliability and internal consistency.

Assessing Attitudes

Attitudes consist of the individual's personal evaluations regarding a behaviour. Attitudes are typically measured by items such as "for me to work out aerobically three times a week in the next six months is ". Any standard attitude scale can be used to obtain subjective evaluations (Ajzen, 1991), although the scale of Osgood, Suci and Tannenbaum (1957) is typically used. Four to six items like the above normally show high internal consistency.

Assessing Subjective Norms

Subjective norms are operationalized as the individual's perceptions regarding whether significant others approve of the behaviour in question. Ajzen (2002b) suggests using items that have both injunctive and descriptive qualities. Injunctive items are authoritative; they estimate whether significant others approve or disapprove of the

individual performing a behaviour. An injunctive item could be: "people who are important to me want me to work out aerobically three times a week during the next six months". Because significant others are generally perceived to approve socially and morally desirable behaviours and disapprove deviant ones, responses to injunctive items may have low variability. Thus, it is wise to include items that assess descriptive social norms, such as: "most people who are important to me work out aerobically three times a week".

Assessing Perceived Behavioural Control

PBC captures the individual's confidence that she is able to perform the behaviour under investigation. Ajzen (2002b) suggests that PCP be measured with both self-efficacy and controllability items. Self-efficacy items, such as "I would like to work out aerobically three times a week in the next six months but I don't really know if I can", capture the difficulty of performing the behaviour. Controllability items, such as "it is mostly up to me whether or not I work out aerobically three times a week in the next six months", address the individual's belief that she has control over the behaviour; that performing the behaviour is up to her.

iv. TRA / TPB and Health-Related Behaviours.

Both the TRA and the TPB have been extensively applied to the explanation and prediction of health and risk activities. Generally, it has been demonstrated that when controllability is not a serious issue, the behaviour in question can be predicted from intentions quite well (Ajzen, 1991). To elaborate, several studies have found that the TRA variables successfully explained smoking frequency (Budd, 1986), smoking cessation (De Vries & Kok, 1986), and smoking initiation (Sutton, 1989). Godin, Valois, Lepage, and Desharnais (1992) investigated how the TPB would predict smoking frequency in the general public, over a period of six months. It was found that the addition of the construct of PBC increased the predictive ability of the TRA (27% versus 15% of the variance accounted for).

The TPB and the TRA have been successfully applied to drug use. For example, Umeh and Patel (2004) in a study of undergraduate ecstasy use, tested moderator interactions between the variables of the TPB, as well as past ecstasy use. It was expected that subjective norms, PBC, and attitudes would moderate each other in predicting intended ecstasy use. It was found that past ecstasy use and attitudes independently predicted intentions to use ecstasy in the future. Moreover, past behaviour and favourable attitudes towards ecstasy were associated with stronger intentions to use this drug, and finally, PBC moderated the relationship between intentions and positive attitudes towards ecstasy consumption.

Alcohol consumption has been explored by the theories of reasoned action and planned behaviour. To illustrate, Norman, Bennet, and Lewis (1998) used the TPB to explore motivational and attitudinal factors underlying undergraduate binge drinking. Questions focused on past behaviour and beliefs regarding binge drinking. The results revealed two main predictors of the frequency of binge drinking, those being positive control beliefs and PBC. Also, environmental cues, such as celebrating a special event, were found to encourage alcohol consumption in frequent binge drinkers.

Participation in a range of exercise behaviours has been successfully explored with the TRA (e.g., Theodorakis, Doganis, Bagiatis, & Gouthas, 1991). Dzewaltoski, Noble, and Shaw (1990) applied the TPB to intended exercise participation and found attitudes and PBC (but not subjective norms) to be significant predictors of the behaviour.

Finally, food choice has been examined via the TRA and TPB by a number of investigators. For example, Conner, Povey, Bell, and Norman (1994) studied attitudes toward healthy eating during a 6-month period. All TPB constructs were used. Results revealed that attitudes, subjective norm, PBC, behaviour beliefs, normative and control beliefs predicted intentions to eat healthily. Nevertheless, only a modest amount of the variance of actual behaviour was explained by the model.

Although the addition of PBC is assumed (Ajzen, 1991) to enhance the predictive ability of the TRA rendering, thus, the TPB superior,

several studies have failed to show this added benefit (e.g., Chan & Fishbein, 1993). Moreover, when the PBC is found to enhance the predictive ability of the TRA, this added benefit tends to be rather small, in the area of 3%-5%. For example, in a meta-analysis of 84 TPB studies investigating a variety of health-related behaviours, Conner & Armitage (1998) found PBC to be an independent predictor of intentions in 67% of the cases; PBC enhanced the predictive ability of the TRA, on average by 5%, over and above the effects of attitudes and subjective norm. Thus, based on the wider literature regarding the TPB, one third of the studies have not found a significant independent effect of the PBC construct.

v. The TRA/TPB in Relation to Sexual Risk-Taking.

The TRA and TBP have been widely used to investigate sexual and contraceptive behaviours, in various contexts and populations. Regarding unprotected sex, several studies have found that both attitudes and subjective norms predict intentions to use condoms (Chan & Fishbein, 1993; Schaalma, Kok & Peters, 1993). Other studies have provided only partial support, revealing either subjective norms (DiBlasio & Brenda, 1990) or attitudes (Krahe & Reiss, 1995) as being predictive of intended condom use. An interesting study was conducted by Bosompra (2001), who used the TRA to study condom use intentions of university undergraduates in Ghana. Results showed that the model explained 33% of the variance in participants' condom use intention. The strongest predictor of condom use intention was subjective norm. In particular, most respondents believed that medical doctors would consider consistent condom use as an appropriate behaviour. However, this belief decreased for parents, close friends, and was lowest for sexual partners, indicating uncertainty regarding whether sexual partners approved of participants' condom use. This result points to one of the criticisms of socio-cognitive theories, namely, the reduced emphasis on contextual and interpersonal factors influencing risk activities. Contextual factors may be especially important in sex-related risk.

As stated in section iv, it is generally assumed that the addition of PBC has increased the predictive ability of the TRA, in relation to intended condom use (Basen-Engquist & Parcel, 1992), yet several studies have failed to show this additional benefit (e.g., Sutton, McVey, & Glanz, 1999). Albarracin, Johnson, Fishbein, & Muellerleile (2001) conducted a meta-analysis of 92 data sets, examining how well the TRA and TPB predicted condom use. Results revealed relationships between PBC, intended and actual condom use, but the PBC construct did not provide a significant additional contribution to the prediction of condom use.

Glassman and Albarracin (2003) used the TPB variables to predict condom use in a high-risk heterosexual sample from two Argentinean cities. They also included measures of relationship status, that is, measures were taken with regard to main and occasional partners. Results revealed that participants had more favourable intentions, attitudes, norms, and PBC with respect to occasional partners than with respect to steady partners. Furthermore, PBC and subjective norms predicted past condom use, yet the behavioural pattern differed across partner type. In particular, partner norm was associated with condom use with main partners, but family and friend norms were associated with condom use among occasional partners. Although this study shows the importance of TPB constructs to predict intentions and actual condom use, it also puts type of partner in the equation. Having a steady partner seems to increase the risk of having unprotected sex, mainly because people emphasize implicit theories that the person they love is also "safe".

vi. Increasing the Predictive Ability of the TRA/TPB.

Despite their considerable success in the prediction of health and risk activities, the TRA/TPB has been criticized on the following grounds.

Firstly, the TRA/TPB has been criticized as being complicated; several authors do not view the model as a realistic description of individual decision-making processes (Fazio, 1986).

Secondly, the TPB was originally conceptualized as a complete and sufficient causal model of human action, suggesting that all other influences on behaviour have their impact via the variables of the TPB (Ajzen, 1991). Yet, a number of authors now support the idea that the TPB should be best viewed and applied as a theory of the proximal antecedents of behaviour or, stated differently, as a model of goal-setting and not of goal implemented action (Conner & Norman, 1996; Sheeran & Orbell, 1998; Sutton, 2002). For example, Sheeran, Norman and Conner (2001) tested the ability of the TPB to predict patterns of behaviour change associated with health screening. It was found that, although the theory provided a prediction of attendance versus nonattendance and frequency of attendance at health screening, TPB variables could not discriminate among participants who consistently attended, participants who delayed attendance, and participants who did not maintain initial attendance. The authors viewed these results as limitations of the TPB in its applicability to health behaviours, and advocated incorporating additional variables to the model to enhance its predictive ability.

The main reason for shifting the theory's emphasis from a fundamental model of human behaviour to a model of goal formation is the *intention-behaviour gap* phenomenon. The intention-behaviour gap demonstrates that people do not always do what they intend to do, especially when it comes to health/risk activities. Moreover, people tend to be inconsistent in their risk-taking activities, and this is definitely true for sexual risk-taking (Green, 2002; Green, Fullop, & Kocsis, 2000). For example, an individual may consistently use condoms with one partner but fail to do so with another, or, inconsistently use condoms with the same partner. The TRA/TPB, and the socio-cognitive models in general, cannot account for inconsistencies in sexual behaviours, because the cognitive variables employed (internal perceptions) are quite stable constructs. Although cognitions can change over time, they do not

fluctuate as dramatically as risky behaviours seem to do (Green, 2002). Thus, it can be argued that intentions are not as reliable predictors of health and risk behaviours as originally assumed.

Finally, the enormous emphasis the TRA/TPB places on the rational, cognitive, premeditated side of human functioning, does not account for other relevant constructs that may well influence risk-taking. Under the TRA/TPB perspective, risk loses its spontaneous and emotional nature; as stated in Chapter 1 of this thesis, risk is defined as a *chance or possibility* of danger, loss, and injury.

In light of the above, a number of researchers have been shifting their emphasis into augmenting the predictive ability of the TPB by testing the model in relation to variables that may help translate intentions into behaviours. Ajzen (1991) too, agrees with this possibility: "the theory of planned behaviour is, in principle, open to the inclusion of additional predictors if it can be shown that they capture a significant proportion of the variance in intention or behaviour, after the theory's current variables have been taken into account" (p.199). A range of variables have been suggested as potential additions to the TPB; the most relevant ones to this discussion (i.e., past behaviour, implementation intentions, and temporal influences) are addressed below.

Past Behaviour

The role of past behaviour in determining future health and risk behaviour has attracted a great deal of attention in the literature. It is argued that future behaviour may not be best determined by cognitive constructs, but by previous behaviour. Several investigators have found that past behaviour exerts a direct influence on intended and future behaviour and have attempted to include the construct in the TRA/TPB framework (e.g.: Leone, Perugini, & Ercolani, 1999; Lugoe & Rise, 1999; Norman, Conner, & Bell, 2000; Ouellette & Wood, 1998; Rhodes & Courneya, 2003; Rise, 1992; Umeh & Patel, 2004). In a meta-analysis of studies regarding a variety of health and risk activities conducted by Conner and Armitage (1998), past behaviour accounted for, on average,

an additional 7% of the variance in intentions, over and above the TPB constructs.

Although it is not uncommon to find that past behaviour predicts intended and actual behaviour, the interpretation of such effects is not particularly easy. The literature has provided three possible explanations for past behaviour being the strongest predictor of risk activities, over and above the variables of the TRA / TPB model.

1. Past behaviour is an independent predictor of intended non-condom use. Practically, this means that the adoption of a health/risk activity is mostly based on personal history and experience, rather than on perceptions of control, subjective norm and attitudes. Accepting this position would justify the inclusion of past behaviour as a standard part of health-behaviour models, such as the TRA/TPB. A number of authors have advocated this position (e.g., Bentler & Speckhart, 1979; Fredricks & Dossett 1983; Kanvil & Umeh, 2000; Sutton, 1994; Rise, 1992).

One mechanism through which past behaviour is believed to significantly influence intended/future behaviour is *habituation* (habit formation). Advocates of this position (e.g., Ronis, Yates, & Kirscht, 1989; Verplanken & Aarts, 1999) argue that only first-time experiences are acted out in a planned, deliberate and conscious fashion, as the theory of TRA/TPB would predict. Most everyday activities, including those important to health, are repeated over and over again. Gradually, repeated behaviours become habits; habits are automatic responses to specific stimuli. Earlier research (e.g., Fazio, 1986; Ronis, et al., 1989) suggested that habits are non-volitional and unintentional; that is, cognitive processes were not assumed to be activated in habituation. These assumptions were proved to be wrong; habitual/automatic behaviours can be either non-volitional or partly volitional (Bargh, 1989). In fact, health related activities are best described as both volitional and automatic. Sutton (1994) points out that health related activities are not completely automatic, as they require at least some premeditation. For example, health behaviours that appear fairly automatic, such as

brushing one's teeth, or jogging in the morning, require a degree of planning and self-reminding.

The degree of automaticity of a health/risk behaviour may depend on *context constancy* (Ouellette & Wood, 1998). Behaviours which take place in unstable, changing contexts are less automatic and require a great amount of conscious deliberation. By contrast, habitual responses requiring minimal thought are likely to take place when the features of the current context are similar to the contexts in which the behaviour in question was learned and practiced. Contexts need not be identical for habituation to occur (Ouellette & Wood, 1998). Stable contexts may vary in superficial attributes; what is required is a similar and supporting environment for performance. For example, when it comes to unprotected sex, using a condom *today* in a certain context (e.g., with a specific partner and setting) should depend on whether or not a condom was used *yesterday* in a similar context (e.g., the same partner and setting; or with a partner and setting sharing similar features to those in the past).

2. Other authors do not regard past behaviour as a valid predictor of intended and future behaviour, and reject its inclusion as a standard part in cognitive-based theoretical models. Ajzen (1991) stated that the effects of past behaviour on intended and future behaviour should be mediated by the variables included in the social-cognition models. In particular, Ajzen (1991) argued that the effect of past behaviour is basically mediated by the PBC construct because repetition of a behaviour leads to enhanced perceptions of control. The explanation offered here for the relationship between past behaviour and intended/future behaviour whilst controlling for the TRA/TPB constructs, is that the TRA/TPB is insufficient because other important cognitive variables have not been considered (Ajzen, 1991; Ajzen, 2002a). Also, (Ajzen, 1991; Ajzen, 2002) suggested that the relationship between past and intended/future behaviour when controlling for the TPB variables, may be a measurement error (Ajzen, 1991; Ajzen, 2002a).

3. A position that, somewhat, reconciles purely behavioural and purely cognitive interpretations regarding the influences of past

behaviour on intended/future behaviour, involves Bem's (1972) self-perception theory. *Self-perception theory* postulates that when individuals are unsure of their attitudes and intentions, they infer them from their own past behaviour and the circumstances under which this behaviour occured. The information regarding past experiences is readily available. Although this is a cognitive strategy, it involves less cognitive effort than generating behavioural intentions in the way the TPB proposes.

Based on the above considerations, several researchers have attempted to include past behaviour in the TRA/TPB frameworks, for two main reasons: (a) to investigate possible direct influences of past behaviour on subsequent behaviour (Sutton, McVey, & Glanz, 1999); and (b) to test the sufficiency of the TPB as a model (Leone, Perugini, & Ercolani, 1999; Lugoe & Rise, 1999; Norman, Conner, & Bell, 2000; Rhodes & Courneya, 2003a; Umeh & Patel, 2004). Leone, Perugini, and Ergolani (1999) used structural equation modeling techniques to investigate the predictive power of past behaviour on intention and subsequent behaviour, in relation to three main cognitive theories: the TRA, the TPB, and the theory of self-regulation (TSR). Undergraduates' studying behaviour was manipulated, as an activity not under complete volitional control. For theory sufficiency to be demonstrated, the effects of past behaviour on intentions and subsequent behaviour should be completely mediated by the main cognitive variables of the theories, those being attitudes, subjective norms, PBC, and desire. It was hypothesized that past behaviour would affect intentions and behaviour over and above attitudinal variables. Hypotheses were confirmed - all three models were improved due to past behaviour.

Norman, Conner, and Bell (2000) investigated the effects of past behaviour, in relation to the TPB constructs, on exercise intentions and actual behaviour. Although the TPB model was found to be predictive of initial exercise intentions and future exercise behaviour, past exercise behaviour had a direct effect on future exercise behaviour, over and above the influence of TPB constructs. Past behaviour was found to

moderate the PBC-behaviour relationship; this relationship was significant for frequent past exercise, but non-significant for infrequent past exercise. Norman, Conner and Bell interpreted past exercise effects as an index of the insufficiency of the TPB as a model, and suggested the inclusion of additional variables.

Nevertheless, mixed results have also been reported. For example, Lugoe and Rise (1999) studied whether past condom use would affect condom use intentions beyond the components of the TPB, in a group of Tanzanian undergraduates. Although past behaviour contributed significantly to intentions to use condoms, beyond the variables of the TPB, its direct effect was third in strength; PBC was the strongest determinant of condom use intentions and subjective norms came second.

The exclusion of past behavioural influences has been one of the main criticisms of the socio-cognitive models (Eagly & Chaiken, 1993). Yet, it seems that the interpretation of past behavioural influences is a matter of the researcher's theoretical background, even preference, as there is enough evidence to accept either of the aforementioned arguments.

Implementation Intentions

Gollwitzer (1993) put forth the distinction between goal intentions and implementation intentions, and argued that implementation intentions may be particularly successful in bridging the intention-behaviour gap in some health and risk behaviours. Recently, a number of investigators have been investigating the possibility that implementation intentions may be a key variable, enabling the performance of an intended behaviour (e.g., Orbell & Sheeran, 2000; Sheeran & Orbell, 2000). Implementation intentions are plans the individual makes, which specify when, how, and where the intended goal is to occur. For example, a person who has never exercised before may intend to exercise in the near future. This intention could be more readily translated into action if the individual makes a specific plan to "go to the gym tomorrow afternoon

at five o'clock, make a health assessment, pay for a month's subscription, and ask the instructor to design a personal work-out schedule". Intentions may not be easily implemented, however, when it comes to sexual activity. For example, the individual can make specific plans regarding buying condoms, keeping them by the bed, and negotiating their use on next sexual encounter. Eventually, condoms might not be used during intercourse, due to partner refusal. Thus, condom use is more likely to be the result of the interaction between the internal motivations of two people and the specific context of the sexual encounter. This notwithstanding, Adam and de Wit (2004) have proposed the possibility of applying implementation intentions to condom use, as a prevention strategy for HIV and STDs.

vii. Time Perspective (TP) as a potential addition to the TRA/TPB.

An emphasis on the study of non-conscious temporal influences on self-regulated health behaviours is an emerging theme in psychological literature. Specifically, Gonzales & Zimbardo (1985) formulated the Theory of Time Perspective. One definition formulated by Boniwell and Zimbardo (2003) describes TP as "the subjective conception of focusing on various temporal categories or time frames when making decisions and taking action" (p.129). Jones (1994) defined TP as "the ways one represents, organizes, and reacts to the past, present, and future" (p. 395). Nuttin (1985) defined TP as "...the temporal zone to which [a person's] mental view virtually extends itself when considering the objects and conscious determinants of behavior" (p.21).

A. Time perspective: typology

Peoples' TP can be reliably measured by the Zimbardo Time Perspective Inventory (ZTPI), a scale developed by Gonzales and Zimbardo (1985) and Zimbardo and Boyd (1999). Five factors (TPs) underlie the ZTPI: *past-negative, past-positive, present-hedonistic, present-fatalistic, and future.* Specifically,

1. A past TP has been associated with an emphasis on family, tradition, religion, and history. A past TP can be negative or positive. A *past-negative* TP is associated with focusing on personal experiences that were noxious, aversive; this usually leads to rumination and depression. By contrast, a *past-positive* TP reflects a warm, pleasurable, and nostalgic view of the past, with an emphasis on maintaining relationships with family and friends. People who operate mainly under a past TP, are likely to be reluctant to experience the unfamiliar, to have difficulties with dealing with change, and have conservative political ideas.

2. A present TP characterizes individuals who live mainly on the "here and now". Present–oriented individuals are able to enjoy the present moment, undistracted by past worries and future anxieties. Present-oriented individuals may have difficulties visualizing the future and anticipating the consequences of their present activities. A present TP is further divided into two sub-orientations, namely, present-hedonistic and present-fatalistic. Present-hedonistic individuals are pleasure-seekers. They are driven by situational emotions, stimuli, and spontaneity. Research has shown that this present-orientation is associated with high-risk activities, such as risky driving (Zimbardo, Keough, & Boyd, 1997), sexual risk-taking (Rothspan & Read, 1996), and substance abuse (Keough, Zimbardo, & Boyd, 1999). Present-fatalists also emphasize living on the "here and now", but in order to avoid planning for the future. They believe that the future is basically determined by fate and not by their efforts; planning for the future would lead to anxiety. This TP is characterized by hopelessness and helplessness, typical symptoms of depression. Indeed, a present-fatalistic TP has been associated with depressive symptomatology (Zimbardo & Boyd, 1999).

3. A future TP is characteristic of people who image their future, plan ahead, set goals, and work towards achieving those goals. Future-oriented individuals are comfortable with making schedules, keeping diaries, setting limits, deadlines, and sticking to them. They tend to be more successful than others in their academic and professional life. This

emphasis on future outcomes and future visualization may protect them from hazardous, risky activities. Indeed, a future orientation has revealed negative correlations with risk-taking activities (Klingemann, 2001; Zimbardo & Boyd, 1999).

Ideally, people should have *balanced* or *flexible* time orientations. That is, depending on the situation at hand, people could switch from one temporal time frame to another. For example, a present TP could dominate when the individual goes on a recreational trip, a past TP could exert its influence during traditional family celebrations, and a future TP could be activated when working to a deadline. Nevertheless, people tend to habitually over-emphasize one TP, that is, on being past, or present, or future oriented.

B. The measurement of time perspective

There have been attempts to construct measures of TP, based on the idea of combining past, present and future orientations. Examples of these instruments are the Circles Test (Cottle, 1976), the Time Structure Questionnaire (Bond & Feather, 1988), and the Time Lines (Rappaport, 1990). On the whole, these tests have had mediocre success in capturing and measuring TP, due to low levels of reliability, scoring difficulties, and the emphasis on measuring future and present orientations, whilst mostly ignoring past TP.

The Zimbardo Time Perspective Inventory – ZTPI (Zimbardo & Boyd, 1999) is a single, integrated scale for measuring peoples' TP. This scale is the outcome of a decade of interviews, focus groups, repeated factor analyses, discriminant validity analyses, item analyses and revisions. The ZTPI consists of 56 items assessed on a 5-point Likert scale, ranging from very uncharacteristic (1) to very characteristic (5). Exploratory principal components analysis and subsequent confirmatory factor analysis supported a five-factor structure. Zimbardo and Boyd (1999) found high test-retest reliability, ranging from 0.70 to 0.80 for the different factors. The first factor (past-negative TP) is measured by ten

items, such as "painful bad experiences keep being played in my mind" and "even when I am enjoying the present, I am drawn back to comparisons with similar past experiences". The second factor (present-hedonistic TP) is measured by 15 items, such as "I take risks to put excitement into my life" and "I like my close friendships to be passionate". Factor three (future TP) is typically captured by items like "I complete projects on time by making steady progress", and "it upsets me to be late for appointments". Factor four (past–positive TP) is measured by items, such as "happy memories of good times spring readily to mind", and "I like family rituals that are regularly repeated". Finally, factor five (present–fatalistic TP) is captured by items like "my life path is controlled by forces I cannot influence" and "often luck pays off better than hard work". Factors are calculated separately; since each factor is theoretically independent, no meaningful overall score exists.

C. The Foundations of Temporal Orientations

The literature reveals three predominant approaches in understanding the mechanisms through which TPs are acquired: behaviouristic learning principles, field theory, and cultural influences.

The Behaviouristic Basis of Time Perspective

Paul Fraisse, in his influential book The Psychology of Time (1964), demonstrated how TPs are learned gradually, from the moment of birth. Specifically, the newborn has no time orientation. Newborns' behaviours are simple reflexes, reactions to environmental stimuli of touch, pressure, light, etc. Quickly, however, through simple *classical conditioning* mechanisms, babies acquire their first temporal references. In classical/pavlovian conditioning, a stimulus, which wouldn't normally produce a behaviour, eventually comes to do so by being paired with another stimulus, which normally produces the behaviour (Pavlov, 1927). For example, when babies are hungry they cry. They will stop crying, in anticipation of their being fed, when the parent picks them up. That is, the baby has learned, through experience, to associate 'being held' (the

conditioned stimulus) with 'being fed' (the unconditioned stimulus). This conditioning requires temporal seriation: one stimulus becomes the signal for another; this is exactly the starting point of TP development. If the mother always picks up her baby immediately after it cries, then the baby will not learn how to delay gratification; this is the beginning of a present temporal orientation.

After classical conditioning principles have shaped the child's first temporal references, *operant conditioning* mechanisms come about and shape the actual time perspectives. In operant conditioning, behaviour is shaped and maintained by its consequences. Positive consequences (rewards) strengthen a behaviour and make it more probable, while negative consequences weaken a behaviour and make it less probable (Skinner, 1938). To continue with the aforementioned example, the child has learned to associate 'being held' with 'being fed'. 'Being fed' will give satisfaction (reward) to the child. This pleasurable consequence will have two results: (a) previous associations and behaviours will be strengthened (e.g., the child will cry whenever she or he is hungry); and (b) the child will establish behavioural patterns to reach a future goal (e.g., the child will cry in order to experience the pleasure of food and satiation). As the child develops, it is not only future rewards (goals) that shape current behaviour; it is also the memory of past behaviours leading to similar rewards that shape current behaviour. This is evident, for example, when children leave the room in search for their mother or for a toy. In this case, the behaviour reflects memory development in time and space. It is obvious how the past and the future are encased in the present; how they are relative to each other.

Gestalt Approaches to Time Perspective

Gestalt psychologists, and in particular Kurt Lewin, argued that behaviouristic principles did not capture the complexity of the subjective experience of time. According to Lewin (1951), time perspective is a non-conscious process in which the continual flow of personal and societal

experiences are decomposed or allocated into selected temporal frames that help give order, coherence, and meaning to those events.

During development, one's time perspective is gradually enlarged. This means that initially, infants live in the present, and their temporal frame can stretch only to the immediate past and immediate future. As infants grow up, their present behaviour is affected by more distant future and past events. Lewin regarded the past and the future as abstract temporal frames which enable people to go beyond compelling interests in their immediate life situation. At the same time, human decisions are determined by the sensory and social characteristics associated with the dominant elements of the stimuli in the present. Studies have shown that certain characteristics of a behaviour (e.g., speed and strength) depend on the spatial and temporal proximity of the goal. There is an approach, as well as an avoidance gradient. Specifically, the nearer people are to a goal that they have set, the greater the force of their reaction to that goal (Lewin, 1951; Hull, 1931). In everyday life, the closer people get to the attainment of a goal or of a dream, the more emotionally aroused they become, and, as a result, they might stop approaching the goal altogether. Lewin (1951) gave an example from prison life: criminals sentenced to several years of jail have been known to escape (and eventually face prison again) when their sentence has almost ended.

It can be extrapolated from the above that behaviouristc and field approaches are complementary. Classical and operant conditioning mechanisms account for the foundations of temporal perspectives, whereas gestalt principles may account for some of the elaborate details in human behaviour, as they relate to those perspectives.

Cultural Influences on Time Perspectives

Nurmi (1991) viewed temporal orientations as a fundamental process of relating to people and events, which are learnt early in life via culture, religion, social class, education, and family.

People in different cultures experience time in different ways. Cultural differences in TPs are reflected in everyday activities, such as walking speed, sense of urgency, the need to be punctual for appointments, dates, and jobs, the need to wear a watch and keeping the watch accurate, and so forth.

Research conducted in this domain has shown that, indeed, the experience of being brought up in a certain culture influences the development of one's TP. For example, Hall and Hall (1999) conducted a series of studies regarding the division of time and cultures in terms of monochronic and polychronic. These are Greek terms: 'mono' means 'one', 'poly' means 'many', and 'chronic' means 'of time'. Monochronic time is characteristic of western cultures, such as the United States, Switzerland, Germany, Scandinavia, and the United Kingdom. People who live in monochronic time systems, typically, tend to do one thing at a time, concentrate on the job, take time commitments seriously, adhere religiously to plans and rules, emphasize promptness, show respect for privacy issues, and maintain short-term relationships. On the other hand, polychronic time is characteristic of non-western societies, such as Mediterranean and Latin American countries. People who live in polychronic time systems typically tend to engage in several tasks at a time, be distractible and subjected to interruptions, regard time commitments as a goal to be achieved if possible, change plans often and easily, do not place a great emphasis on privacy issues, do not emphasize promptness, and prefer long-term relationships. Hall and Hall (1999) point out that people in western societies perceive monochronic time systems as natural. Yet, monochronic time is learnt, and it violates several human innate rhythms. Monochronic time is assumed to be an artifact of the industrial revolution in England, where working in a factory demanded workers to be at their workstations at a specific time.

TP and Gender

It may seem to be intuitively sound that men have more hedonistic tendencies than women, that is, men are more present-oriented than

women. Research has yielded mixed results regarding the relationship between TP and gender.

La Roche and Frankel (1986) found no gender differences in their study which correlated future and present TP with psychological and physical health. Similarly, Mahon, Yarcheski, and Yarcheski (1997) found no gender differences in a study where a future TP predicted positive health practices in adolescents. On the other hand, Rothspan and Read (1986) found gender differences in their correlational study between TPs and sexual risk-taking. Gonzales and Zimbardo (1985) demonstrated that men reported being more future-oriented than women, yet, this was contradicted by answers to specific questions regarding work motivation, pragmatic action, and daily planning: in these factors, women were found to be more future-oriented than men.

Thus, gender differences may reflect men and women's preferences to do different tasks. Or gender differences might depend on the ratio of men and women in the sample and the statistical analysis employed.

D. Linking TP with Risk-Taking

Correlations have been demonstrated between TP and risk-taking behaviours. In particular, people who score high in the present TP scale (especially hedonists), and people who score low in future TP scale, tend to take more risks. For example, Keough, Zimbardo, and Boyd (1999) found that present TP, as measured by the ZTPI, was related to more frequent self-reported alcohol and tobacco use, in a diverse sample of 2,627 participants. Present TP predicted substance use even after controlling for many personality factors traditionally related to increased substance use (sensation-seeking, aggression, impulsivity, depression, anxiety, stress, and demographic variables). In a study with homeless adults living in temporary shelters, Epel, Bandura, and Zimbardo (1999) found that those who scored high in the present TP scale exhibited more dysfunctional coping behaviours than those who scored high in the future TP scale. Zimbardo, Keough, and Boyd (1997) found that present TP predicted risky driving. Lennings (1994) related TP to suicide ideation.

Specifically, Lennings argued that excessive focusing on the present de-motivates people to change their present situation, as this would require future planning. In addition, people who consider suicide develop negative attitudes toward the future, which "translate" into thoughts of escape. Mahon and Yarcheski (1994), and Mahon, Yarcheski, and Yarcheski (1997) showed that the length of one's future TP positively correlated to positive health practices, such as exercise, balanced diet, relaxation, safety, and decreased substance use.

Yet, there have been contradictory findings as well. Not all studies have yielded significant associations between TP and levels of risk-taking. Zimbardo (1999) argued that contradictory findings are mainly due to the use of different types of TP scales (other than the ZTPI). Indeed, this has been the case for some studies; for example, Resnick and Blum (1985) used a psychoanalytic instrument to measure future TP. They found that successful adolescent contraceptors did not have a more developed future TP, as compared to pregnant adolescents.

How does TP influence risk-taking?

Research has shown that temporal orientations are associated differentially to risky activities, but the mechanism through which this is attained is not explicit.

Lennings (1994) reviewed several cognitive constructs relating to adolescent suicide (suicide was viewed as the ultimate risk-behaviour). The cognitive constructs involved in suicide included schemata, covert rehearsal, cognitive rigidity, and time perspective. Baumeister (1990) related suicide to a biased present TP (over-operating from a present TP). This is a cognitive distortion which translates in a rigid, inflexible, narrow type of thinking, preventing imaging the future, and especially a positive future. The person typically focuses on the present situation, which is unpleasant and hopeless; personal temporal orientation does not extend to the possibility of a positive future. This type of thinking is typical of depressive symptomatology.

According to Nuttin and Lens (1985), future TP motivates people to act by making plans and resolving conflict via fantasy. The ability to image a prosperous future seems to be the most important element of adopting health-promoting behaviours; the lack of imaging skills predicts risk-taking. In addition, future-oriented individuals are more able to delay gratification. The more extended the future orientation, the less the psychological and emotional distance between the need (of the present) and the achievement of this need (in the future).

Time Perspective and Sexual Risk-Taking

Based on the above, one might expect people who score high in present TP to have a tendency to take more sexual risks. That is, their need for immediate gratification and diminished interest in future consequences might predispose them to more sexual risk-taking. By contrast, people high in future TP may take fewer sexual risks. Future-oriented individuals' ability to visualize their future actions and the consequences of those actions can result in safe-sex practices. The tendency to visualize the future is especially important, as it translates into the following types of behaviours: being prepared for safer sex (e.g., buying condoms and negotiating condom use); being able to anticipate results of safe versus risky behaviours.

Only a few studies have investigated the influence of TP on sexual risk-taking. Oskamp, Midnick, and Berger (1974) found that successful users of contraception were more future oriented. Jorgenson (1978) found a non-significant tendency for future oriented people to use a variety of birth control methods. However, these two early studies did not emphasize contraception as a protective method for STDs, and did not use reliable and valid measures of TP, such as the ZTPI.

More recently, Rothspan and Read (1996) studied the relationship between TP and HIV risk behaviours among heterosexual college students. The investigators used the ZTPI conceptualization and measurement of TP. Results revealed a complex relationship between TP and safe sex practices. Individuals high in future TP were most likely to

delay the onset of sexual activity and, once sexually active, they reported fewer sexual partners. Also, higher future TPs related to alternative methods of safe sex, other than condom use. Such methods included 'finding out about one's sexual history', 'having a monogamous relationship', and 'delaying sexual intercourse with a new partner'. Certain items of the future scale related to condom use; in particular, 'future-planning' and 'delaying gratification' yielded small, positive correlations with condom use.

Differences in TP and Sexual Risk-Taking in Greek and British samples

Cultural differences have been established regarding TP (e.g., Hall & Hall, 1999; Levine, West, & Reis, 1980; Gonzalez & Zimbardo, 1985). This thesis focuses on British and Greek populations. Extensive internet-based literature search during the years 2003-2006 revealed no Greek studies manipulating TP as variable and, also, no British - Greek cross-cultural studies investigating TP and risk-taking. Similarly, literature search revealed no cross-cultural studies regarding the relationship between ethnicity (British – Greek), subjective beliefs and sexual risk-taking. To be sure, however, epidemiological studies have documented similarities and differences in STD prevalence for British and Greek populations. For example, in the year 1999, in the UK, the most common STDs seen in GUM clinics were genital warts (the human papilloma virus-HPV), followed by non-specific urethritis, and chlamydia (Adler, 2002). Similar trends existed in Greece in the same year: the commonest STD was HPV, followed by chlamydia, and non-specific urethritis (Kyriakis et al., 2003). Differences were observed in the magnitude of HIV diagnoses for Greece and Britain, for the year 2003. Specifically, in the UK, 56,763 (101.1 cases per million) were reported whereas, in Greece, 6,521 (37.9 cases per million) were reported.

Conclusions Regarding TP

Time perspective has been put forth as a particularly significant construct, shaping and predicting a host of behaviours, including risk-

taking. Also, TP promises conceptual integration of many seemingly unrelated constructs, as long as they have a temporal underpinning (Zimbardo & Boyd, 1999). For example, many psychological processes and constructs are based on a time element, such as memory, conditioning, reinforcement, self-efficacy, anticipation of future outcomes, guilt, depression, anxiety, and so on.

According to Zimbardo and Boyd (1999), "our decades-long research and personal involvement with aspects of temporal perspective have convinced us that there are few other psychological variables capable of exerting such a powerful and pervasive impact of individuals and the activities of societies" (p.1284).

A number of investigators (e.g., Epel, Bandura, & Zimbardo, 1999; Keough, Zimbardo, & Boyd, 1999; Lennings, 1994; Mahon & Yarcheski, 1994; Mahon, Yarcheski, & Yarcheski, 1997; McGrath, & Tschan, 2004; Zimbardo, Keough, & Boyd, 1997; Zimbardo & Boyd, 1999) view TP as a fundamental influence on human activity, including risk-taking. On the whole, these investigators approach and write about TP in a very enthusiastic manner and, at times, it is felt that TP is treated as the "silver bullet" in explaining and predicting health-related behaviour.

There have been, however, inconsistent findings regarding the ability of TP to shape health-related activities. In particular, Breier-Williford & Bramlett (1995) used an early version of the ZTPI (Zimbardo, 1992) and did not find substance abusers to be more present-fatalistic or present-hedonistic. Also, Resnick and Blum (1985) found no evidence that adolescents who used contraception successfully had a well-developed future time perspective.

Identifying one construct that would provide the panacea of problematic behaviours would be more than welcome, yet, it is too optimistic a thought. Granted, considerable data exist which generate interest in the area of Time Psychology; nevertheless, further research is needed before the empirical importance of TP can be solidified.

It is suggested here that the influence of TP on risk activities be explored in relation to the TRA/TPB constructs. There are several reasons for this type of research.

A closer look at the cognitive constructs employed in the investigation of health-related activities via the TRA/TPB unfolds temporal elements. The constructs of PBC and self-efficacy, in particular, share a common temporal component. The development of self-efficacy reflects a tripartite temporal influence on self-regulation of behaviours: self-efficacy beliefs are based in past experiences, present appraisals, and reflections on future options (Zimbardo & Boyd, 1999). According to Bandura (1989), self-efficacy depends, in part, on the ability to substitute distal goals for proximal goals; he referred to the preference for distal goals as foreknowledge or future time perspective.

A meta-analysis conducted by Sheeran, Orbell, and Abraham (1999) regarding the psychosocial correlates of heterosexual condom use revealed that, among other constructs, self-efficacy, conscious planning, and negotiation skills, were strong predictors of condom use. Michie and Abraham (2004) suggested that guided imagery and the ability to visualize future behaviours significantly correlate with reported condom use. Also, anticipated regret has been found to predict condom use (Richard & van der Pligt, 1991), and exercising (Abraham & Sheeran, 2003). All of these variables require that the individual can operate from a future TP. Future-oriented individuals typically emphasize the development and implementation of plans and have the ability to visualize/image the future (Zimbardo & Boyd, 1999; Lennings, 1994). Moreover, future TP and the development of long-term goals have been positively correlated with self-efficacy (Zaleski, Cycon, & Kurc, 2001).

Richard, van der Pligt, and de Vries (1996) manipulated participants' feelings of anticipated regret and TP in relation to non-condom use. The researchers tried to extend participants' future temporal orientation by presenting them with scenarios describing a situation in which they meet someone and have sex, with or without a condom. Then, the researchers asked participants to focus on their

feelings after unsafe sex (anticipated regret), before they took measures of condom use intentions. Results revealed a significant main effect of TP on the number of negative feelings mentioned with respect to not using condoms. Moreover, participants who focused on their anticipated, post-behavioural feelings expressed stronger expectations to use condoms in the future, and these same participants were more consistent condom users, as was found after a five month follow-up

Not only goal formation but goal implementation may be underlined by temporal orientations. According to McGrath and Tschan (2004) goals are intentions and cognitive representations about a future state that is not yet realized. Goals span time, as they connect the future to present action. The process of goal attainment (implementation intentions) is complex, eminently temporal, and requires several qualitatively different action phases (Gollwitzer, 1990; Heckhausen, 1991).

Although TP correlates with several psychological constructs, such as self-efficacy, sensation seeking, self-esteem, ego-control, impulse-control, depression, and conscientiousness, it is still assumed to maintain its conceptual independence and coherence as an explanatory and predictive variable (Zimbardo & Boyd, 1999). TP is regarded as the foundation upon which the above cognitive and psychological constructs are built (Zimbardo & Boyd, 1999). In any case, the only way to ascertain TP's independence and predictive ability is to test it against powerful and established theoretical models, such as the TRA/TPB.

2.2. Critique of the Social-Cognition Models Used to Study Health and Risk Activities in Psychology

The theoretical models described in this chapter have a lot of variables in common. Sometimes it is difficult to distinguish one model from the next. All of the models are based on people's subjective beliefs, cognitions, perceived susceptibility to danger, perceived self-efficacy, perceived evaluation of outcomes, and the like. These models have been

used by health psychologists to study health and risk behaviours, yet they are rooted in other areas of psychology, namely, social, cognitive, and motivation psychology.

The use of social cognition theories offers certain advantages for Health Psychology research. Firstly, social cognition models provide a simple theoretical basis for research in the health domain. Secondly, they specify which variables are to be manipulated, as well as a procedure to operationalize the variables and construct reliable and valid measures. Although the overlap of variables amongst the models may suggest that some of them are redundant, it also implies that most theorists agree on the constructs that are important in explaining and predicting health behaviours. For example, behavioural intentions and self-efficacy are main constructs in many of the models, suggesting that they are significant cognitions in predicting health and risk activities.

Furthermore, assuming that the models identify key cognitions in understanding health behaviour, these cognitions can be addressed when designing interventions. For example, if baseline research has demonstrated that attitudes are the most important cognitive predictors of a hazardous activity in a population, then an intervention could focus on changing attitudes towards that behaviour.

Although social cognition models have been useful in explaining, predicting, and generating further research into health and risk issues, they have been criticized on several grounds. One criticism involves the premium given on rationality and premeditation. The emphasis given on rational cognitive constructs reflects a whole philosophical tradition, wherein the individual is regarded as a logical creature. This approach is a reiteration of the ancient *determinism versus free will* dilemma regarding human behaviour; the socio-cognitive models accept the *free will* solution. However, human behaviour, and especially risk behaviour has proven to be much more complicated. For example, condom use involves a number of behaviours, such as buying condoms, carrying them, negotiating their use, and eventually using them correctly. Evidently, these processes do not rely only on the beliefs and intentions

of one individual; rather condom use involves beliefs, decisions, and plans of a number of people and occurrences (e.g., the sexual partner, the social referents, the situation, practical obstacles to obtaining and using condoms, etc.) According to Moore and Halford (1999), current psychological models, based on premeditation and rationality, have had only moderate success in the prediction and control of sexual risk-taking.

A further criticism has to do with the emphasis social-cognition models place on individual intentionality. Intentions are viewed as the most powerful determinants of human action, or as accurate reflections of behaviour (Ajzen, 1985; Ajzen, & Fishbein, 1977). Yet, a number of investigators (e.g., Foreshaw, 2002; Papadatou & Anagnostopoulos, 1999) argue that intentions are not powerful enough to be translated into actions (the intention-behaviour gap).

Additionally, the reliance upon a limited number of cognitive constructs in explaining and predicting health behaviours carries the danger of neglecting other significant variables, both cognitive and non-cognitive. The socio-cognitive models described in this chapter employ just a few specific variables; this view of behaviour may be a narrow and unrealistic one. Authors of well-established social cognition theories also accept the possibility of extending their models with additional variables, on the basis of empirical proof (Ajzen, 1991; Fishbein, 1993).

Another disadvantage of the social-cognition models is that, although they point out which cognitions should be modified for successful behaviour change, they do not provide ways of changing those cognitions. Demonstrating, for example, self-efficacy as a key variable in increasing condom use, says nothing about how to increase or manipulate self-efficacy in order to ensure more condom use.

In a more general sense, the dominant social cognition models may be criticized because of their "consequentionalist" nature (Loewenstein, Weber, Hsee & Welch, 2001). By focusing on the role of future outcomes of behaviour as leading factors in behavioral decision-making, these models tend to underestimate the role of the 'here and now', regarding

whether individuals act on intentions. That is, socio-cognitive models downplay the influence of the context in which a behaviour is about to occur. However, deliberate intentions are often overruled by reactions to compromising situations, as is, for example, demonstrated in research on behavioural willingness to act against one's intentions (e.g., Gibbons, Gerrard, Blanton & Russell, 1998).

Finally, most of the socio-cognitive theories described in this chapter assume that the decision to take risks is based upon a subjective cost-benefit analysis of the possible consequences of their decisions. This means that socio-cognitive theories have roots in *expected utility theory* (von Neumann & Morgenstern, 1947) and, especially, in *subjective expected utility theory* (SEU; Savage, 1954). Expectancy-value theories assume that people generally behave in ways that will maximize utility (value) and will prefer behaviours which are related to the highest expected utility. Under this perspective, people, *logically, consistently,* and *subjectively* weigh the pros and cons of their behaviours and outcomes of their behaviours and, eventually, choose a behaviour which will provide them the most benefits. Although considerations of subjective logic and consistency may predict, to a considerable extent, which behaviours individuals will choose, several authors have noted that SEU axioms are inadequate as descriptions of decision-making, and as standards of good decision making. Frisch and Clemen (1994) argued that SEU axioms describe patterns of choices people make but they do not describe psychological processes involved in the decisions. For example, SEU would not distinguish situations in which people acted out of rational reasoning, from situations in which people acted out of habit or emotion. Moreover, investigators have questioned whether utility theory provides a sufficient standard of good decision-making. Utility maximization is not the only goal in life; people strive towards other goals (e.g., emotional, altruistic, etc). Also, even if people conform to utility axioms, they may not be successful in understanding the uncertainties of the context surrounding a behaviour or of the consequences of their chosen behaviour. Loomes and Sugden (1982) agued that utility theory

axioms "constitute an excessively restrictive definition of rational behaviour" (p. 823).

To summarize, the socio-cognitive models available for the study of health / risk behaviours emphasize the importance of intentions and rational human choice. These approaches may constitute the basis of understanding health and risk activities but fail to capture the whole picture; rationality and premeditation are crucial determinants of behaviour but not the only ones. As Gross (2001) argues, the cognitive health behaviour models neglect emotional, social, and environmental factors.

Thus, it is reasonable to investigate psychosocial variables that influence risk-taking but are currently overlooked by dominant socio-cognitive approaches. This type of research can refine and enhance existing theoretical models, as well as uncover the significance of new constructs.

2.3. Relationship Status (RS) and Sexual Risk-Taking

Note: The initial conception of this research treated RS as a demographic variable, yet the data revealed that RS is an important influence on sexual risk-taking. Thus, the literature review presented in this section was conducted *during* data analysis and not before; new hypotheses were formulated in the process. This is an example of the dynamic nature of research itself, and the flexibility required from the investigator.

RS refers to the type of sexual relationship one is engaged in. RS may range from exclusive to casual relationship(s), or to no relationship. Individuals ascribe different meanings to different types of relationships. For instance, people tend to invest psychologically and emotionally in exclusive relationships; they expect heightened love, intimacy, and trust from their exclusive partners. People involved in (a) casual relationship(s) have different expectations from their partners;

some may expect no satisfaction of emotional and psychological needs, and others may expect at least some levels of trust and intimacy. Finally, people in no relationships may gratify their emotional and psychological needs from other important individuals in their lives (e.g., friends and family members), whilst "in search" for a partner. The different meanings people ascribe to their erotic relationships also affect decisions regarding sexual practices, and issues of contraception and protection from STDs.

One theoretical approach, *relational theory* (Simoni, Walters, & Nero, 2000; Amaro, 1995; Buunk & Bakker, 1997) suggests that variations of commitment level in a relationship differentially affect sexual behaviours in that relationship, including sexual risk-taking. In particular, it is presupposed that people in intimate, exclusive relationships may be more motivated to protect their partner's physical health and well-being, as compared to people in casual or no relationships. Consequently, one might expect couples in exclusive, intimate relationships to engage in safe sex, as a means of protecting their loved ones from unwanted pregnancy and STDs. Relational theory hypothesizes more unsafe sexual practices for people in casual or no relationships. Yet, several studies have pointed out that, contrary to the "logical" model put forth by relational theory, people in close and intimate relationships take many more sexual risks, as compared to people in casual or no relationships.

The studies that have been conducted in this area are surprisingly few and tend to place emphasis on specific samples, such as those already affected with HIV/AIDS, or minorities (African/South American Women). Given the fact that sexual practices always take place within a relational context, relationship status could be an important predictor of unprotected sexual activity.

A. Epidemiological Studies

Although epidemiological studies basically report prevalence and determinants of STDs, as well as the relevant populations infected, such studies can also indirectly point to types of sexual relationships involved in unprotected sexual activity.

To illustrate, the Centers for Disease Control and Prevention (2001) report that since the year 2000, heterosexual transmission has outpaced drug use as the leading HIV exposure category for women of all ethnicities in the United States.

According to Adler and Meheust (1999), there have been epidemiological changes in exposure groups for STDs and AIDS in Europe. In particular, homosexual and intravenous exposure are on the decline whilst heterosexual transmission is rapidly increasing; for example, in 1999, heterosexual transmission accounted for 23% of new HIV cases, as compared with 10% in 1990.

Within the UK, in the year 2000, the homosexual contribution declined to 44%, and the heterosexual contribution rose to 53% of all HIV infections during that year (Miller & Green, 2002). These results imply that heterosexual relationships are an important domain for examining sexual risk in general, and condom use in particular.

Additional epidemiological results from Greek studies provide insights into the specific types of relationships that may predispose to unprotected sexual activity. Kiriakis, Hadjivassiliou, Paparizos, Flementakis, Stavrianeas and Katsambas (2003), as well as Kiriakis, Hadjivassiliou, Paparizos, Riga and Katsambas (2004), reported significant sociodemographic and behavioural characteristics in relation to five STDs (gonorrhea, chlamydia, syphilis, chancroid, and genital warts). Specifically, *low partner change* rate in heterosexual men and women, and a *low-risk perception trend* in women in heterosexual relationships, were found to be the basic antecedents of HPV and chlamydia. These findings imply that, contrary to commonly held beliefs, people who are in heterosexual relationships and who do not change partners frequently are the highest risk group for the most

common STDs. Low-risk perception trend in women implies that "they were infected at a higher rate from steady partners" (Kyriakis et al, 2004, p. 3). A 'low-risk perception trend' provides evidence that these women were in a heterosexual relationship with a partner they did not perceive to be a risk to their sexual health.

Finally, a study by Sarafidou and Chliaoutakis (1994) employing male university undergraduates in Athens revealed that 51% of the sample had either not used a condom, or used it inconsistently with casual partners, during the last twelve months, and 75% of the sample had not used a condom or had used it inconsistently with their steady partners, during the last twelve months. These results are consistent with the idea that low partner change rate is likely to be associated with unprotected sex.

B. Studies involving affected groups (participants with HIV and Hemophilia)

Studies involving affected groups have yielded results suggesting that strong emotional needs, and specifically the need for love and intimacy, influence safe-sex decisions.

To elaborate, Rhodes and Cusick (2000; 2002), provided an analysis of how and why love and intimacy prove to be congruent with unprotected sex. Their sample, which consisted of 73 HIV+ drug users and their partners, was divided in three groups: HIV+ gay men and their partners, injecting drug users and their partners, and heterosexual men and women. Participants were interviewed about their sexual safety negotiations and their reasons of engagement in protected and unprotected sex. Results demonstrated that the decision to use condoms was taken differently in concordant and discordant relationships (HIV concordance means that both or neither of the partners are HIV positive, whereas HIV discordance means that one of the partners is HIV positive and the other is HIV negative). Overall, 64% of HIV positive participants reported having sex without condoms since

their diagnosis. HIV positive participants reported "never" using a condom in approximately half (51%) of their concordant relationships, and "always" using a condom with the majority (62%) of their discordant partners. Inconsistent condom use was reported by 63% of HIV positive participants in concordant relationships, and 38% in discordant relationships.

Discordant relationships were characterized by stress and anxiety over the virus. The decision not to use condoms was a gradual process laden with tension, a process in which perceptions of risk and negotiations changed over time. In the initial stages of the relationship condoms were used and the threat posed by the virus was perceived as crucial. However, as the relationship became long-term, viral dangers became less important; what became increasingly important was minimizing the doubt that the relationship was serious. As a result, there was a gradual shift from protected to unprotected sex, starting with occasional instances of having sex without a condom, to letting go of the condom completely.

In concordant relationships, the couples considered concordance as providing an opportunity to reach intimacy, especially since the virus seemed not to pose any serious threat to their health. Nevertheless, participants knew that becoming re-infected with HIV could result in an "overloading" of the virus, to contracting different and potentially stronger strains of the virus, or even acquiring other STDs which would complicate the already existing ailment. None of the HIV+ people in concordant relationships used condoms beyond the early stages of their relationships.

Parish, Cotton, Huszti, Parsons, and the Hemophilia Behavioral Intervention Evaluation Group (2001), conducted interviews with 23 single men with hemophilia and HIV, 28 married men with hemophilia and HIV, and their female partners. The aims of this study were to better understand cognitive factors involved in behavioural intentions and practices of unsafe sex, and to find possible factors which facilitate or impede safe sex practices. Results revealed advantages and

disadvantages of consistent condom use for vaginal intercourse. The advantages of condom use were the prevention or the reduction of the transmission of the HIV virus, but interviewees reported more disadvantages. Practical or physical disadvantages included the inconvenience and awkwardness of using condoms, the removal of spontaneity of the encounter, and the decreased physical pleasure associated with condom use. Additionally, personal, emotional and cognitive disadvantages were reported: the condom itself and the usage of it, was a reminder of the disease and the risk involved in it. All of the men in this sample had mixed feelings about safe-sex negotiation and using condoms, viewing condom negotiation and use as either leading to intimacy or compromising it.

The role of relationships in safe-sex decisions and practices was assessed by Simoni, Walters, and Nero (2000), in a study of 230 HIV+ Latin and African American women. It was hypothesized that HIV+ women with steady partners would be more likely to report safer sex, as compared to HIV+ women without steady partners. This hypothesis was based on a "rational" relational theory framework, positing women in steady partnerships being more motivated to protect their partners' well-being, as well as the relationship itself, as opposed to women in casual or no relationships. Contrary to the hypotheses, respondents with steady partners were far more likely to report unsafe sex than respondents without a steady partner. A four fold higher percentage of respondents in exclusive relationships (as compared to those in no relationship) engaged in at least one incident of unprotected vaginal, anal or oral sex in the past three months. Even after demographic variables were controlled for, having a steady relationship remained the strongest predictor of unsafe sex. Simoni et al. (2000) argued for a contextualistic behavioural perspective when investigating sexual risk taking. *Contextualistic behaviourism* (Landrine, 1995; Rosnow & Georgoudi, 1986) would postulate that the behaviour 'intercourse without a condom' is meaningless unless studied in its context. In steady relationships, condom use may imply mistrust, suspicion,

infidelity, emotional and physical distance, denial of potential motherhood. Thus, in exclusive relationships, the satisfaction of emotional and physical needs may be more important than protection from disease.

C. Studies Assessing Sexual Risk and Relationship Intimacy in Women and Minority Groups

Bowleg, Lucas, and Tschann (2004) studied female African American scripts about sexual relationships and condom use with primary partners. Fourteen women were asked to describe their relationships; that is, they were interviewed about relationship decision-making, emotional investment, sexual practices, infidelity, HIV risk, and condom use. These women were naturally divided into three groups; those in a stable, emotionally intimate relationship, those in an unstable, conflict ridden relationship, and those in (a) casual, primarily sexual relationship(s). Results of women in exclusive releationships revealed a pattern of "using condoms all the time" in the beginning of the relationship, but stopped using them later on. Regarding women in casual relationships, those who "never used condoms" reported wanting intimacy and hating condoms; those who "sometimes used a condom" reported using it only when suspecting infidelity from partner; those who "always used condoms" reported doing so because their partners wanted to. The issue of diminished sexual pleasure was also cited as a reason for non-condom use. Finally, the women who reported 'never using a condom' attributed this behaviour to issues of heightened trust and communication.

Warr (2001), drawing from a variety of literature, such as feminist analyses, social theory, textural readings, and sexual health campaigns, argued that romantic love is central to young peoples' (but especially to young womens') lives and ought to be incorporated in safe sex promotion efforts. Warr pointed out that, by and large, people find romance highly pleasurable, as it refers to the emotional ideals of love, intimacy, reciprocity and commitment. However, the notion of romance

poses a serious problem in sex education and safe-sex campaigns, because the meanings attributed to condoms are in sharp contrast with romantic ideals. The question put forth by Warr was how love and romance can be incorporated in safe-sex campaigns, or how sexual safety can be united with romance. In an attempt to provide an answer, Warr presented her experience in developing a safe-sex educational booklet for young homeless individuals. Before its release, Warr showed the booklet to a group of young homeless women and sought feedback. The women noted that accounts of love and intimacy were excluded. Indeed, Warr had consciously avoided traditional romantic narratives because of their contrast with condom use and because she wanted to focus on women's interest in purely bodily pleasures. Nevertheless, on the basis of the readers' feedback, Warr added quotes that showed the importance of intimacy in a sexual relationship, and an illustrator created images that combined safe-sex and romantic notions. Comments on this version of the booklet were more enthusiastic, as the readers thought it portrayed sexual life in a realistic way.

Green, Fulop, and Kocsis (2000), carried out a series of interviews in the UK with 100 sexually experienced women, in order to investigate why people use condoms with some partners but not with others, and why, sometimes, condom use varies over time with the same partner. Data revealed that the women who believed that their partner presented them with a risk were likely to use a condom. Women did not feel a global general risk of attracting a STD; only particular partners were presenting risks. Once a woman was in a long-term relationship, she ceased to perceive her partner as presenting a risk to her sexual health, and was likely to discontinue condom use. This study revealed two more possible factors accounting for inconsistent and/or no condom use. First, the same women used condoms when single, but tended to use the contraceptive pill when in a long-term relationship. Second, past behaviour and previous experiences played a significant role; women who had sex over a period of time with a partner and experienced no STDs or other problems, were likely to perceive their

partners as risk-free and discontinue condom use. The investigators argued that past personal experience overrides theoretical concepts of population risk. Also, the study findings revealed that the interviewees commonly mentioned HIV as the main (and sometimes the only) STD they thought posed a threat, whilst ignoring other STDs.

D. Studies assessing the relationship of Intimacy and Sexual Risk Taking in Young People

Yeh (2002) investigated sexual risk-taking by interviewing 36 Taiwanese high-school students and university undergraduates. Data uncovered the following themes, which provided reasons for sexual risk-taking. "Suppressing Knowledge": participants were aware that the consequences of sexual risk taking were pregnancy, AIDS and STDs, but did not translate this knowledge into actual behaviour (i.e., condom use). "Keeping silent": participants usually had their first intercourse with a particular partner without any safe-sex negotiation. This made it especially difficult to talk about safe-sex after first intercourse because their partner might interpret it as "lack of trust". "Inadequate sex education": participants complained about having inadequate sex education. "Stereotypical thinking": participants denied their susceptibility to attracting STDs or AIDS, rendering these ailments as irrelevant to them. Specifically, participants regarded STDs and AIDS as conditions involving gay men, foreign workers, and promiscuous individuals. "Being swept away by love": the issue here was to trust the sexual partner without thinking logically. Girls, in particular, believed that putting faith in and trusting their partners were reliable methods of protection from STDs. "The false sense of knowing one's sexual partner": participants believed that they "knew" their partners and thus, they trusted them. However, when asked what it meant to know one's partner, participants' reports were superficial; appearance, background, living habits, and interactions with friends were mentioned.

Civic (2000) provided additional reasons for not using condoms reported by college students in dating relationships: (a) previous knowledge of partner's sexual history; (b) knowing that the partner is safe; (c) using the contraceptive pill; (d) sustaining the atmosphere of passion and spontaneity in "the heat of the moment"; and (e) dislike of condoms, per se.

Apostolodis (1993) conducted a cross-cultural study of sexual practices, interviewing Greek and French young people (18-25 years old). One main theme was revealed: a dichotomous representation of sexual contact, the dichotomy being *agape* and *eros*. Eros is the Greek word for the physical aspect of love (i.e., lust), whereas agape refers mainly to the emotional aspect of love. Sexual practices related to "eros" were perceived as risky, dangerous, and conducive to HIV infection, whereas sexual practices associated with "agape" were perceived as disease-free. Condom use was perceived as necessary only for eros; by contrast, condom use was regarded as offensive for agape, as well as destructive of the trust and proximity experienced in the relationship.

Loumakou, Kordoutis and Sarafidou (2001) investigated social representations of love and sexual intercourse in a sample of 401 university undergraduates in the North of Greece. These investigators hypothesized that the AIDS scare has constructed two separate and independent social representations: (a) sexual intercourse; (b) protection - via condom use. The hypothesis was confirmed. Young people perceived sexual intercourse and condom use as contradictory. The notion of protection, in the form of condom use, was not found to be directly related to sexual drives and to intercourse itself. Participants did not attempt to incorporate condom use in the representation of sexual intercourse. It was concluded that condoms act as fear prompts, as they alert the individual to the possible negative consequences of sex (i.e., disease and pregnancy). As a result, people adopt a defensive attitude towards condoms, which often leads to discarding condoms completely.

Finally, research has shown that young people may consistently have unprotected sex because they tend to perceive each new relationship as exclusive, and thus safe from sex-related risks; a practice called *serial monogamy* (Catania, Stone, Binson, & Dolcini, 1995; Kordoutis, Loumakou & Sarafidou, 2000).

As a whole, research findings in this domain have suggested that people attribute certain meanings to their intimate relationships, which interact with the meanings attributed to condom use. Meanings of safety, love, and intimacy are attributed to exclusive relationships. Such meanings constitute basic human psychological needs, therefore, people may go at great lengths to satisfy and maintain them. Specifically, unprotected sex may be perceived as a means to achieving and sustaining intimacy, as it presupposes trust and psychophysical proximity. In this context, condom use threatens the relationship itself, by compromising its level of trust and intimacy. At the same time viral dangers from STDs also threaten the experienced physical and emotional intimacy. Research findings have shown that the protection of intimacy and security of a relationship, through unprotected sex, may paradoxically outweigh viral protection (Rhodes & Cusick, 2000; Rhodes & Cusick, 2002). Finally, it seems that the importance placed on intimacy, trust, and love exists in different cultures and groups of people. Studies have suggested that the need to experience intimacy within a close relationship is 'universal' (Golden, 1996). If this is the case, one might wonder why emotions, as realized through sexual relationships, have been downplayed in psychological sexual risk research.

2.4. Emerging Issues

As put forth in Chapter 1, data exist to support risk-taking as a 'person - by - situation' phenomenon and, moreover, experimental studies have tended to put a premium on situational factors.

Nevertheless, the theories that have been developed to study health and risk behaviours focus on intrapersonal factors (i.e., cognitions), which conform to the 'risk-as-trait' approach.

Social cognition models are favoured as they provide a clear theoretical framework for conducting research. The intrapersonal variables employed are easy to operationalize and measure. By contrast, taking non-cognitive and situational variables into consideration is not as clear cut. For example, variables such as past behaviour (habits) and relationship status are not as easy to measure and control, thereby providing additional challenges to investigators.

It is argued here that in the study of risk-taking, cognitive variables are basic and necessary but ultimately provide one part of the picture. As Social Psychologists have pointed out (e.g., Ross, 1977), focusing solely on intrapersonal factors in explaining behaviour may result in the *fundamental attribution error*, that is the erroneous underestimation of situational influences and the overestimation of traits and attitudes.

From the social cognition models, the TRA/TPB is estimated here as the most coherent and self-contained. Meta-analyses have revealed that the TPB is able to explain and predict up to 27% of intended health behaviours and up to 20% of actual health behaviours (Armitage & Conner, 2001).

As mentioned in section 2.2 of this chapter, past behavioural influences on future behaviour have been studied in the health domain. Most theorists agree that past behaviour (or habits) influence intentions and actual future behaviour, but the considerable disagreement regarding the mechanisms of this influence justifies further study. Similarly, the study of temporal influences on self-regulated activities is a recent development in psychology, and more research is necessary before conclusions can be made. TP has a strong cultural element which justifies cross-cultural comparisons. Literature search shows this be the first study of temporal influences on non-condom use, employing Greek and British participants. Finally, the effect of relationship status on

sexual risk-taking has been under-explored in health psychology research; this study helps to fill this gap.

The Studies of the Current Thesis

The subsequent chapters provide a detailed account of two studies that were conducted in Greece and Britain, during the years 2003-2005.

The overall purpose of both studies was to identify and investigate psychosocial factors (i.e., TRA/TPB variables, RS, TP, past behaviour, culture) that influence unprotected sexual activity in university students. The behaviour under consideration was 'reported condom non-use' during sexual intercourse, as this behaviour endangers the individual's sexual health the most. Aside from abstinence, the only way to avoid a STD and ensure sexual health is to use condoms successfully and consistently for vaginal, anal, and oral sex.

Specific aims included testing the sufficiency of cognitive theories in the study of sexual risk-taking; testing the superiority of the TPB over the TRA; establishing the need to employ both quantitative and qualitative methodologies; potentially enhancing the predictive ability of the TRA/TPB via adding non-conscious, situational, and emotive variables in the model.

Chapter 3.

Study 1: A cross-cultural study of psychosocial factors influencing young peoples' intended non-condom use.

Methodology

3.1. Aims and Hypotheses

The main purpose of this study was to identify potential factors that influence young people's unprotected sex, in two different cultural cohorts: British and Greek university students. Specifically, Study 1 investigated relationships between socio-cognitive factors (i.e., attitudes, norms and personal control), culture (i.e., British versus Greek) temporal factors (i.e., having a present or future time perspective) and intended and actual non-condom use. The influence of past non-condom use on intended non-condom use was also examined. Furthermore, relationship status was established as a potential influence on non-condom use. An additional purpose of this study was to critically assess the adequacy of dominant theoretical perspectives used in psychology to investigate health and risk behaviours.

i. Hypotheses employing 'intended non-condom use' as the dependent variable.

Associations

1. Significant associations were anticipated between the TPB variables (attitudes, subjective norms and PBC), past behaviour, culture, RS, TP, and the participants' intentions to engage in unprotected sexual activity. Regarding temporal influences, PTP was expected to have a positive relationship with intended non-condom use, whilst a FTP was expected to have a negative relationship with intended non-condom use.

2. Past behaviour was hypothesized to correlate with all TRA/TPB variables and have a direct effect on intended unprotected sex, over and above the influence of the TRA/TPB.

Prediction

1. It was hypothesized that the TRA may be sufficient to predict intended non-condom use (i.e., the PBC construct was not expected to be a

significant predictor of intended non-condom use, over and above attitudes and subjective norms)

2. TP, culture, and RS were hypothesized to enhance the predictive ability of the TPB.

Moderation

1. TP, relationship status, and culture were hypothesized to moderate the attitude-intentions relationship and, possibly, the PBC-intentions and subjective norms-intentions relationships.

2. Potential moderator interactions were hypothesized between the components of the TPB in relation to intended non-condom use, whilst taking into consideration TP, RS, and culture.

ii. Hypotheses employing 'past non-condom' use as the dependent variable.

Associations

1. Significant associations were expected between intentions, attitudes, subjective norms, PBC, TP, RS, culture, and reported non-condom use.

Moderation

2. TP, RS, and culture were hypothesized to moderate the intention-behaviour and attitude-behaviour relationship, and possibly, the subjective norms - behaviour and PBC - behaviour.

3.2. Methodology

A. Philosophical Framework

This study was based on the positivist philosophical perspective. The *positivist* tradition (also known as 'quantitative research', 'empirical

science', and, more recently, as 'postpositivism') has its roots in 19th century authors such as Mill, Durkheim, Newton, Comte, and Locke (Creswell, 2003). Positivism views the world in a deterministic way, which means that phenomena have their causes and moreover, phenomena are not accidental; they are governed by laws or theories. Positivism further requires that phenomena be measured numerically, in a careful and objective fashion. Thus, in this study, the investigation of phenomena was based on certain theories, which guided the formation of variables and hypotheses to be tested. Finally, the collected data, after being statistically analyzed, confirmed some hypotheses and disconfirmed other; this strengthened some of the theoretical tenets, and questioned others. Results of this first study guided further research.

B. Theoretical Framework

Two theoretical models were employed: the theory of planned behaviour (Ajzen, 1985) and the theory of time perspective (Zimbardo & Boyd, 1999). These two theories are extensively described in Chapter 2.

C. Design

The study was based on a cross-sectional questionnaire design. There were several reasons for choosing a cross-sectional design. First, research on unprotected sex may be perceived as 'sensitive' by a number of participants, as they are required to divulge certain aspects of their private interpersonal lives. Thus, anonymity and confidentiality are particularly important for the elicitation of valid, unbiased responses. Although longitudinal designs may yield more accurate predictors of non-condom use, a cross-sectional design was judged as a better approach to maintaining anonymity, and thus, validity. Second, practical issues were involved in choosing a cross-sectional design: it is almost impossible to trace Greek university students at a later time. This is due to certain facets of the Greek university system: with the exception of laboratory classes, attendance is not mandatory, only certain courses have prerequisites, and students may choose to take courses in a

seemingly untimely fashion. For example, first year undergraduates can take courses of the senior year and vice-versa. Therefore, a cross-sectional design was a realistic choice for the Greek cohort. In addition, a lot of published authors have conducted this type of research cross-sectionally (e.g., Bosompra, 2001; Glassman & Albarracin, 2003; Lugoe & Rise, 1999; Norman, Bennett, & Lewis, 1998); hence, this design is empirically accepted.

Finally, in this study, 'reported non-condom use' referred to participants' non-condom use during the last 6 months and up to the day of data collection. That is, reported non-condom use translated to 'past' non-condom use. Some authors have questioned the validity of similar studies which use 'past behaviour' as a dependent variable, because *past* behaviour is assumed to be a 'consequence' of *present* attitudes, intentions and norms (Bennett & Bozionelos, 2000). Nevertheless, in survey studies causation is not established by the statistical analyses, although it is sometimes implied. Thus, directionality of variables is not a primary issue in most statistical tests employed in questionnaire research. In any case, results were interpreted with caution, as is generally the case in cross-sectional research.

D. Variables

The independent variables of this study consisted of attitudes, subjective norms, perceived behavioural control (PBC), present time perspective (PTP), future time perspective (FTP), culture (British versus Greek), relationship status (exclusive versus non-exclusive versus no relationship), past behaviour (reported non-condom use), and intentions to engage in unprotected sex. The dependent variables of this study consisted of past and intended non-condom use (past behaviour and intentions were treated as either dependent or independent variables, depending on the specific hypotheses and analyses).

E. Participants

The sample comprised 112 participants; 55 were British (49.1%) and 57 were Greek (51.9%) psychology undergraduates. The age range was 18-21 years old. There were 89 females (79.5%) and 23 males (20.5%) in the sample. *See also section 4.2 for a detailed demographic breakdown.* British participants were attending the University of Bath and Greek participants were attending Panteion - the University of Social and Political Sciences, in Athens. The choice of university undergraduates being the participants of this study was made after serious consideration. First, the study required that participants were drawn from a high-risk population. A lot of investigators agree that early adulthood, and in especially the first year of academic life, is a particularly high risk time (Katz et al., 2000; Leigh, 1999). For example, late adolescents and young adults account for one of the fastest growing groups of HIV and AIDS among the general population (Chernoff & Davison, 1999). Freedom from adult supervision and increased availability of sexual partners are thought to contribute to heightened sexual risk taking during the early university years. Secondary reasons for choosing undergraduates as participants were convenience of access and the likelihood of a high response rate, due to the formality of the university setting. Participation was voluntary.

Cultural heterogeneity across British and Greek samples

Based on recent data from WHO (2004) and Unicef (2001) reports, Greek and British young people differ with regard to the following contraceptive and other sex-related activities.

Table 3.1

Sex-related Activities across Culture and Gender (WHO, 2004)

Activity	Greek		British	
	Males	Females	Males	Females
Mean age at first sexual intercourse	14.3	14.6	14.0	14.1
Percentages of condom use at last intercourse (15-year-olds)	91.2	82.5	69.6	70.8
Percentages of some form of contraception at last intercourse (15-year-olds)	91.2	82.5	80.4	87.5
Percentages of the experience of sexual intercourse (15-year-olds)	33.6	9.6	35.7	40.4

The proportion of young women aged 15-19 who give birth each year is 11.8 per 1000 in Greece, and 30.8 per 1000 in Britain (Unicef, 2001) Finally, age of consent is 15 in Greece and 16 in the UK (www.avert.com).

F. Measures

Participants received two questionnaires.

1. The Zimbardo Time Perspective Inventory (ZTPI-short form), similar to the one used in the Zimbardo, Keough, and Boyd (1997) study. This measure contains two subscales, a present and a future scale. A total of 20 items were assessed on a 5-point Likert scale according to 'how characteristic' each statement was of the respondent. A score of '1' meant that a statement was 'very characteristic' of the respondent and a score of '5' meant that a statement was 'very uncharacteristic' of the respondent.

2. A theory of planned behaviour questionnaire, which contained direct measures of the TPB, in line with Ajzen's (2002b) recommendations (see Chapter 2). All items were measured on a 5-point Likert scale, except for one item that measured the behaviour in question at the interval level.

Additionally, relationship status (being exclusive, casual, or no relationship) was established. The questionnaire included a definition of

'unprotected sexual activity' as "any type of sexual activity (e.g., oral, vaginal, anal sex) without the use of a condom", and pointed out that other forms of contraception were irrelevant to the current study. The questionnaire, initially constructed in English and then translated to Greek, was back-translated by an English-Greek bilingual Health Psychologist before being used in this study. Appendix A includes all measures employed in Study 1.

Internal consistency of the measures was assessed by checking the Cronbach's alpha coefficient. Ideally, the Cronbach alpha coefficient of a scale should be around 0.7 and above, although scales with fewer than 10 items can give smaller alphas and still be consistent (Pallant, 2001). It was found that the scales of this study had acceptable reliability with the exception of the PBC scale. In particular, the FTP scale gave a coefficient of .66 and the PTP scale gave a coefficient of .64. According to Zimbardo and Boyd (1999), the Zimbardo Time Perspective Inventory has good internal consistency, with a Cronbach alpha of .77 for the future scale, a Cronbach alpha of .79 for the hedonistic scale, and a Cronbach alpha of .74 for the fatalistic scale. The intentions scale yielded a coefficient of .92, the attitudes scale gave an alpha of .86, subjective norms provided an alpha of .65, and perceived behaviour control gave a score of .41.

G. Operational Definitions.

Behaviour of interest

Frequency of unprotected sex was measured by two items. The first one was "in the course of the last six months how often did you have unprotected sex". This item was scored on a verbal scale, from which participants had to choose one of the following responses: "every time I had sex", "most of the times I had sex", "about half of the times I had sex", "less than half of the times I had sex", and "never". The second item was "in the course of the last six months I had unprotected sex", and

was scored on a 5-point likert scale, ranging from "always did" (1) to "never did" (5).

The operationalization of condom use measures followed reliability and validity recommendations given in Sheeran and Abraham's (1994) meta-analysis of 72 studies of condom use in relation to HIV-preventive behaviour. Specifically, reliability issues involve the recall period for participants' reports of condom use. Sheeran and Abraham suggest that questions should demand a specific recall period and have an optimal period for reliable recall. Vague, general, open-ended questions, such as: "have you ever used condoms" and "how often do you use condoms during sexual intercourse", should be avoided. These types of questions are problematic as respondents may be reporting condom use (or non-use) over different periods of time, within the same study. Also, if the recall period is not specified, then reliable comparisons across studies cannot be made. However, the decision of an optimal recall period is difficult, as there is a paucity of research relevant to the optimal time recall period of sexual behaviour and condom use. From the studies reviewed by Sheeran and Abraham, a six-month recall period was considered to be the most reliable, as recall periods for over six months may be problematic, memory-wise. Also reliability is enhanced when, within the same questionnaire, more than one measures of condom use are employed, and their internal reliabilities are computed. The current study employed a six-month recall period and two behaviour measures.

Regarding the validity of condom use measures, the importance of establishing and manipulating relationship status, or type of partner, was put forth. Not differentiating condom use with different types of partner raises problems because it assumes that the meaning of condom use is the same across partners. From the 72 studies reviewed by Sheeran and Abraham, only 13 made a clear distinction between two types of partner (exclusive versus non-exclusive). Validity is further enhanced when the terminology used in the questionnaires is clearly defined, as the participants understanding of the terms may vary. From the 72 studies reviewed, only four made adequate efforts to ensure that

the respondents understood all the sexual terminology involved. In the current study, relationship status was manipulated and all relevant terms were defined.

Finally, Sheeran and Abraham argued for the effort to control 'self-presentation bias', which may be an issue in AIDS related research. According to self-presentation theory (Beaumeister, 1982), people use attributions to preserve positive social identities and protect their self esteem. Under this perspective, individuals may misrepresent their sexual histories in order to appear less risky (Scandell, Klinkenberg, Hawkes & Spriggs, 2003). Sheeran and Abraham found only six studies controlling for response bias via the use of social desirability scales, honesty scales, and self-disclosure scales. Nevertheless, the issue of 'self-response bias' is a controversial one and even the studies conducted in risk-taking, which took into consideration such biases, have provided mixed results. To elaborate, studies that have controlled for self-presentation bias found little evidence of biased reports (e.g., Biglan, Metzler, Wirt, Ary, Noell, Ochs, French, & Hood, 1990) and studies which specifically examined self-response bias in sexuality research found much less bias than expected (e.g., Catania, McDermott, & Pollack, 1986). In this study, participants were assured (verbally and in writing) that their responses would be treated in strict confidence; assurances of confidentiality are thought to encourage valid answers in risk taking research (Murray & Perry, 1987).

Intentions

Behavioural intentions were captured by three items: "I intend to have unprotected sex in the following 6 months", "I plan to have unprotected sex in the following 6 months", and "I would like to have unprotected sex in the following 6 months". Responses were structured on 5-point Likert scales ranging from "definitely true" (scored as 1) to "definitely false" (scored as 5) for the first two items, and ranging from "strongly agree" (1) to "strongly disagree" (5) for the third item.

Attitudes

Participants' evaluation of having unprotected sex was obtained by 5-point Likert scaling of bipolar adjectives (i.e.: enjoyable-unenjoyable, pleasant-unpleasant, good-bad, beneficial-harmful, and wise-foolish).

Subjective norms

Two items were used to measure subjective norm. The first item was: "the people in my life whose opinions I value would strongly approve (1) – strongly disapprove (5) of my having unprotected sex in the next 6 months". This item had an injunctive quality, consistent with the concept of subjective norm. Responses to injunctive items often exhibit low variability because significant others are generally perceived to be approving desirable behaviours and disapproving undesirable behaviours. To deal with this issue, a second item was added to capture descriptive subjective norms (whether significant others themselves perform the behaviour in question). The descriptive item was: "most people who are important to me have unprotected sex", and it was scored on a 5-point likert scale, ranging from "definitely true" (1) to "definitely false" (5).

Perceived behavioural control (PBC)

PBC was measured by using four items. The first two items measured *personal controllability*, that is, respondents' belief of personal control over the behaviour (that the performance of the behaviour was up to them). Personal controllability items were: "whether I have unprotected sex in the next six months is entirely up to me", scored on a 5-point likert scale, ranging from "strongly agree" (1) to "strongly disagree" (5). The second item measuring controllability was "How much control do you believe you have over having unprotected sex in the next six months", scored on a 5-point likert scale, ranging from "complete control" (1) to "no control" (5). Two more PBC items captured respondents' sense of self-efficacy with respect to performing the behaviour of interest. The first self-efficacy item was: "for me, to use a

condom in the next six months is", and was scored on a 5-point likert scale ranging from "very easy" (1) to "very difficult" (5). The second self-efficacy item was "I am confident that I could use a condom if I wanted to, in the next six months", and was scored on a 5-pont likert scale ranging from "strongly agree" (1) to "strongly disagree" (5).

Present time perspective (PTP)

Participants' present orientation was assessed by 10 items. Examples of those include "I do things impulsively, making decisions on the spur of the moment", "I try to live one day at a time", and "I take risks to put excitement in my life".

Future time perspective (FTP)

Respondents' future orientation was established by 10 items, such as, "when I want to achieve something I set goals and consider specific means of reaching those goals", "I make lists of things to do", and "it upsets me to be late at appointments".

Time perspective items were scored on 5-point likert scales, ranging from "very characteristic" (1) to "very uncharacteristic" (5).

Culture

Culture (British = 1, Greek = 2) was obtained simply by inspecting if the questionnaire was in Greek or in English.

Relationship status

Relationship status was obtained by the item "I am currently in". Participants had to choose from three options "an exclusive relationship", (a) "casual relationship(s)", and "no relationship".

Demographic factors

Age range (18-21 years old) and gender (0=female, 1=male) were obtained.

H. Procedure

As soon as the study was designed, ethical approval was sought and granted by the ethics committee of the Psychology Department of Bath University. The ethics committee suggested that the non-judgmental character of the questionnaire be made clearer; as a result, the following statement was added: "Dear Participant, please, bear in mind that this is a non-judgmental, standardized questionnaire, used extensively in Social and Health Psychology research. You will be asked questions regarding Unprotected Sexual Activity".

Collection of the British data came first, in May 2004. A class of psychology first year students, at Bath University was approached (as was arranged with their lecturer). First, the researcher introduced herself and the nature of the study. Then, informed consent was sought: participants were handed out informed consent sheets, and as soon as those sheets were signed and returned, questionnaires were administered. Administration of the questionnaire in the lecture theatre allowed direct supervision of respondents. Participants were assured (verbally and in writing) that their responses would be treated in strict confidence. Once questionnaires were returned, participants were given a debriefing sheet, which provided specific information about the study (e.g.: the purpose of the study and the theoretical models that were employed), as well as the contact details of the researcher. These materials can be viewed at Appendix A. The whole process of data collection lasted 20 minutes. Of the 60 questionnaires administered to this group, 56 were returned, and 55 were eventually used.

The same procedure was followed for the Greek data collection, a month later (June 2004). Data collection took place in two freshman psychology classes, at Panteion – University of Social and Political Sciences, in Athens. Of the 60 questionnaires administered, 59 were returned, and 57 were used.

I. Data Analyses

All statistical analyses were carried out with the Statistical Package for the Social Sciences (SPSS Windows). First, descriptive statistics were employed to provide the nature of the variables: means and standard deviations were estimated for continuous variables and percentages for categorical variables; t-tests provided gender differences and chi-square tests gave cultural differences amongst the variables. Then, inferential statistics were conducted: Pearson's correlation analysis assessed zero-order relations between variables and multiple regression analyses were computed to identify key predictor variables, in accordance with the hypotheses. Finally, moderation effects were investigated for several variables, in accordance with the hypotheses. A moderator is a variable which partitions a main independent variable into subgroups, which establish its domains of maximal effectiveness regarding the dependent variable in question (Baron & Kenny, 1986). Moderators function as independent variables, that is, they are always antecedent or external to the dependent variable. According to Baron and Kenny, moderation can be conceptualized and depicted with a path diagram, such as the one depicted in the figure below.

Independent Variable
(e.g.: attitudes)   **a**

Moderator   **b**   **Dependent Variable**
(e.g.: RS)   **(e.g.: Intended non-**
                                                    condom use)

Independent Variable   **c**
        X
Moderator
(attitudes x RS)
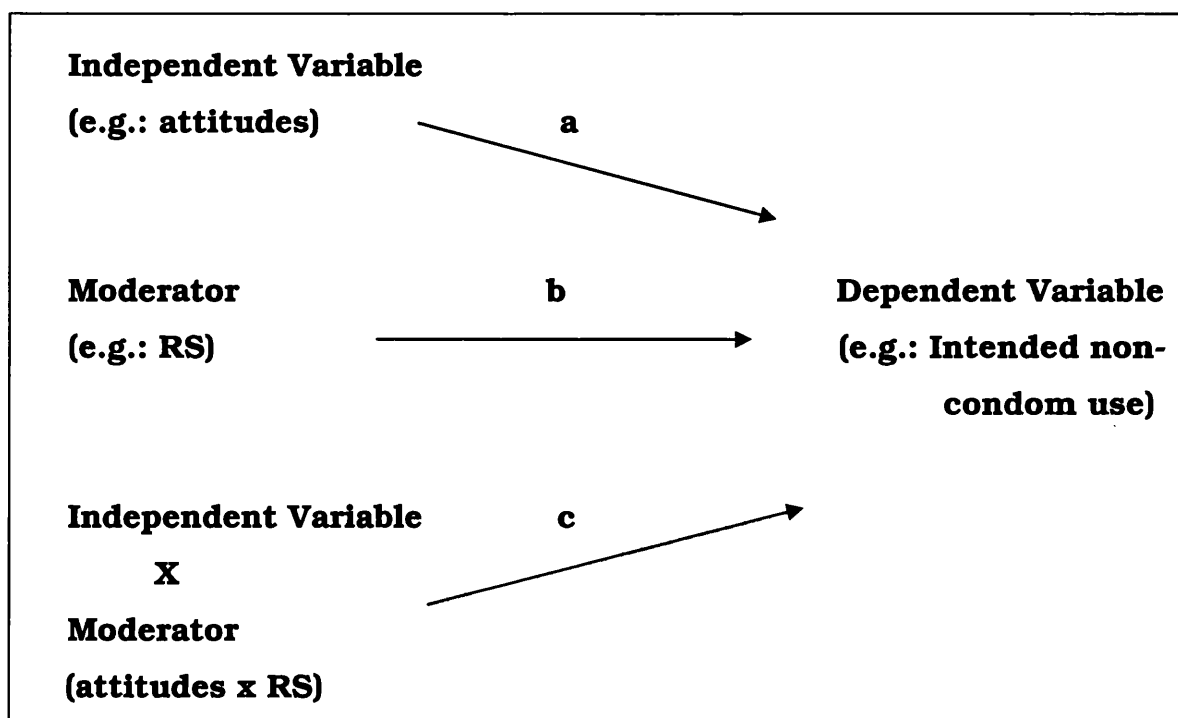
Figure 3.1. The Moderator Model.

Figure 3.1 has three causal paths which feed into the dependent variable: the impact of attitudes on intended non-condom use, as the independent variable (path a); the impact of RS on non-condom use, as the moderator (path b); and the interaction of these two (path c). Moderation is established when the interaction (path c) is significant. Additionally, significant main effects for paths a and b may be obtained, although such effects are not essential for establishing moderation. Finally, according to Baron and Kenny, it is desirable (although not essential) that the moderator be uncorrelated with the independent and the dependent variable.

Moderation was assessed via hierarchical regression tests and ANOVA tests.

Chapter 4.
Results: Study 1

4.1. Preliminary Data Modification and Manipulation

Prior to statistical analyses, it was decided to reverse the scores of certain quantitative measures in order to ensure that high scores indicate high levels of scale. The scores of behavioural frequency, present time perspective (PTP), future time perspective (FTP), behavioural intentions, and perceived behavioural control (PBC) were reversed. For example, behavioural frequency was initially measured by the item "in the course of the last 6 months I had unprotected sex", via a 5-point Likert scale (1 = Always did to 5 = Never did). After reversal, a score of 5 meant that the participant always had unprotected sex in the course of the last 6 months. Score reversal helped the interpretation of the results and rendered them more meaningful. It may be intuitively unappealing to think of '1' as a high score and of '5' as a low score. Thus, although the scales were administered to the participants in the form recommended by their authors, afterwards, scores were reversed for statistical and conceptual clarity. This procedure is not uncommon and it is recommended by a number of authors (e.g., Pallant, 2001).

4.2. Descriptive Statistics

A. Categorical Variables

Gender: 89 female and 23 male participants gave a total of 112.

Culture: there were 55 British and 57 Greek participants. Table 4.1 below, provides a detailed breakdown of the participants by gender and culture.

Table 4.1.

Population Breakdown: Gender X Culture

| | | CULTURE | | |
		British participants	Greek participants	Total
FEMALE	Count	36	53	89
	Expected Count	43.7	45.3	89.0
	% within GENDER	40.4%	59.6%	100.0%
	% within CULTURE	65.5%	93.0%	79.5%
	% of Total	32.1%	47.3%	79.5%
MALE	Count	19	4	23
	Expected Count	11.3	11.7	23.0
	% within GENDER	82.6%	17.4%	100.0%
	% within CULTURE	34.5%	7.0%	20.5%
	% of Total	17.0%	3.6%	20.5%
	Count	55	57	112
	Expected Count	55.0	57.0	112.0
TOTAL	% within GENDER	49.1%	50.9%	100.0%
	% within CULTURE	100.0%	100.0%	100.0%
	% of Total	49.1%	50.9%	100.0%

Relationship status: from the total sample, 51 (45.5%) participants were in exclusive relationships, 13 (11.6%) were in casual relationships and 48 (42.9) were in no relationship.

Relationship dichotomy: from the total sample, 57 (50.9%) participants were single and 55 (49.1%) were dating.

Behaviour dichotomy: 54 participants (48.2%) had engaged in unprotected sexual activity during the previous six months and 57 participants (50.9%) used a condom during that time frame.

B. Continuous Variables

Means and standard deviations of continuous variables are provided in table 4.2.

Table 4.2.

Participant Mean Scores of the Continuous Variables

Variable	*M*	*SD*	*N*
Past non-condom use	2.32	1.61	112
Intended non-condom use	2.51	1.3	112
FTP	3.40	0.49	112
PTP	3.27	0.51	112
Attitudes	3.08	1.0	112
Subjective Norms	3.55	1.02	112
PBC	3.95	0.68	112

C. Gender Differences

Gender differences were not part of the hypotheses. Nevertheless, several T-tests were conducted to assess gender differences in relation to all variables, as a means of better understanding the sample characteristics. The results were treated as descriptive and demonstrated that:

1. There were no statistically significant gender differences for reported past or intended non-condom use.

2. There were no gender differences for PBC and subjective norms scores.

3. There were statistically significant gender differences in TP and attitudes. Specifically, male students were more present-oriented (M = 3.47, SD = 0.58) than female students [M = 3.22, SD = 0.48; t (110) = -2.16, p = 0.03]. Female students were more future oriented (M = 3.45, SD = 0.45) than their male counterparts [M = 3.22, SD = 0.59, t (110) = 2.04, p = 0.04]. Also, female participants held more negative attitudes towards

unprotected sex (M = 3.19, SD = 1.07), as compared to male participants [M = 2.66, SD = 0.57, t (110) = 3.24, p = 0.002].

4.3. Inferential Statistics

A. Exploring Associations Among Variables

Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, and homoscedasticity, regarding the relationships between the variables. 'Normality' assumes that the scores of the independent variables are distributed in a bell-shaped curve, with the greatest frequency of scores in the middle and smaller frequencies towards the extremes. 'Linearity' assumes the presence of a linear relationship between two variables. 'Homoscedastisity' assumes that the variability in scores for variable X is similar at all values of variable Y. Normality can be checked by inspecting the histogram of scores on each variable. Linearity is inspected by the presence of a (roughly) straight line at a scatterplot of scores. Homoscedasticity is established by the presence of a fairly even cigar-shaped scatterplot of scores.

Results for intended non-condom use.

It was hypothesized that attitudes, subjective norms, perceived behavioural control, TP and culture would be related to participants' intentions to engage in unprotected sexual activity. Relationships between the above variables were assessed via Pearson's product-moment correlation coefficient. There was a strong negative relationship between attitudes and intentions [r = -.74, n = 112, p < 0.01], indicating that negative attitudes towards unprotected sex are correlated with weak intentions to engage in unprotected sex. The coefficient of determination is the shared variance between two variables, and can be estimated by multiplying the r coefficient by itself. In this case, coefficient of determination was .55, suggesting that attitudes helped explain 55% of the variance of intentions scores. Subjective norms revealed a strong

negative relationship with behavioural intentions [r = -.64, n = 112, p < 0.01], suggesting that significant others' disapproval of unprotected sex is correlated with weak intentions to engage in unprotected sexual activity. Here, the coefficient of determination was .40, indicating 40% of shared variance between subjective norms and intentions. No significant relationship was found between PBC, TP and behavioural intentions.

Culture was expected to reveal a relationship with behavioural intentions and TP. In particular, British participants were hypothesized to score higher on the future scale, and take less sexual risks, as compared to Greek participants. There was a significant negative relationship between culture and present time perspective [r = -.39, n = 112, p < 0.01], indicating that culture was correlated with PTP. The coefficient of determination (the r value multiplied by itself) was .15, suggesting that culture helped explain 15% of PTP scores. However, the direction of this relationship was not as originally assumed: British participants scored higher on the PTP scale (M = 3.47. SD = 0.47) than Greek participants (M = 3.08, SD = 0.47). Culture was not significantly correlated with FTP or behavioural intentions, although intended non-condom use means were higher for the British sample (M = 2.60, SD = 1.4) than for the Greek (M = 2.42, SD = 1.2).

Results for past non-condom use.

Behavioural intentions, attitudes, subjective norms, PBC, TP and culture were hypothesized to reveal associations with past non-condom use.

A strong positive relationship was found between behavioural intentions and past non-condom use [r = *.82*, n = 112, p < 0.01], indicating that participants who had engaged in unprotected sex also intended to do so in the future. The coefficient of determination was .67, showing that intentions helped to explain 67% of the variance of past non-condom use scores. Attitudes were negatively correlated with past behaviour [r = -.68, n = 112, p < 0.01], showing that past non-condom use was related to current positive attitudes towards unprotected sex. In

this case, the coefficient of determination was .64, suggesting that attitudes helped explain 46% of the variance of past behaviour scores. Subjective norms were also significantly associated with past non-condom use [r = -.52, n = 112, p < 0.01], implying that participants engaging in unprotected sex in the past, had referents who approved of non-condom use. The coefficient of determination was .27, which meant that subjective norms helped explain 27% of the variance of past behaviour.

PBC, culture and TP were not significantly correlated with past non-condom use.

Relationship Status

As mentioned in Chapter 2, relationship status was initially conceived as a demographic variable. It soon became obvious that being (or not) in a relationship was associated with behavioural intentions and past behaviour. As a result, an extensive literature review was conducted regarding relationship status and sexual risk-taking; new hypotheses were formally formulated and tested. The findings are presented below.

Associations were hypothesized between relationship dichotomy (in a relationship or not) and intended/past non-condom use. A significant correlation was found between relationship dichotomy and behavioural intentions [r = .43, n = 112, p < 0.01], indicating that participants who were dating had stronger intentions to have unprotected sex. The coefficient of determination was .18, suggesting that relationship status aided the explanation of 18% of the variance of reported intentions to engage in unprotected sex.

A statistically significant relationship was also demonstrated between relationship dichotomy and past non-condom use [r = .41, n = 112, p < 0.01]. The coefficient of determination was .17, indicating that relationship dichotomy helped explain 17% of the variance of past non-condom use.

B. Exploring Differences Between Groups

Cultural Differences

A Chi-Square test was conducted for variables: culture (British, Greek), relationship status (exclusive, no relationship), and reported unprotected sex (has had sex without condoms in the last 6 months, has not had). This test determined the frequency of cases falling into the categories of variables. Specifically, this test explored: (a) the proportion of Greek and British respondents across relationship types; (b) the proportion of Greek and British respondents that had unprotected sex (or not) during the last six months. Thus, cultural differences in relationship types and unprotected activity were observed. Results are presented in tables 4.3a and 4.3b.

Table 4.3a

Proportion of Greek and British Participants Across Relationship Styles

		RELATIONSHIP STATUS (RS)		
		Single	Dating	Total
British participants	Count	27	28	55
	Expected Count	28.0	27.0	55.0
	%within CULTURE	49.1%	50.9%	100.0%
	% within RS	47.4%	50.9%	49.1%
	% of Total	24.1%	25.0%	49.1%
Greek participants	Count	30	27	57
	Expected Count	29.0	28.0	57.0
	%within CULTURE	52.6%	47.4%	100.0%
	% within RS	52.6%	49.1%	50.9%
	% of Total	26.8%	24.1%	50.9%
Total	Count	57	55	112
	Expected Count	57.0	55.0	112.0
	%within CULTURE	50.9%	49.1%	100.0%
	% within RS	100.0%	100.0%	100.0%
	% of Total	50.9%	49.1%	100.0%

Table 4.3b

Proportion of Past Unprotected Sex Across the two Cultures

		Behavioural Dichotomy		Total
		Has never had unprotected sex during the last 6 months	Has had unprotected sex during the last 6 months	
British participants	Count	23	32	55
	Expected Count	28.2	26.8	55.0
	% within CULTURE	41.8%	58.2%	100.0%
	% within BEHAVIOUR DICHOTOMY	40.4%	59.3%	49.5%
	% of Total	20.7%	28.8%	49.5%
Greek participants	Count	34	22	56
	Expected Count	28.8	27.2	56.0
	% within CULTURE	60.7%	39.3%	100.0%
	% within BEHAVIOUR DICHOTOMY	59.6%	40.7%	50.5%
	% of Total	30.6%	19.8%	50.5%
Total	Count	57	54	111
	Expected Count	57.0	54.0	111.0
	% within CULTURE	51.4%	48.6%	100.0%
	% within BEHAVIOUR DICHOTOMY	100.0%	100.0%	100.0%
	% of Total	51.4%	48.6%	100.0%

Differences in Relationship style

Two Chi-Square tests revealed significant differences in past and intended non-condom use across the three relationship categories. Tables 4.4. and 4.5. provide a detailed account of these differences.

Table 4.4.

Differences in Past Unprotected Sex Across the Relationship Styles

		Behaviour Dichotomy		Total
		Has never had unprotected sex in last 6 months	Has had unprotected sex in last 6 months	
Exclusive Relationship	Count	17	34	51
	Expected Count	26.2	24.8	51.0
	% within RELATIONSHIP TYPE	33.3%	66.7%	100.0%
	% within BEHAVIOUR DICHOTOMY	29.8%	63.0%	45.9%
	% of Total	15.3%	30.6%	45.9%
Casual Relationship	Count	4	9	13
	Expected Count	6.7	6.3	13.0
	% within RELATIONSHIP TYPE	30.8%	69.2%	100.0%
	% within BEHAVIOUR DICHOTOMY	7.0%	16.7%	11.7%
	% of Total	3.6%	8.1%	11.7%
No Relationship	Count	36	11	47
	Expected Count	24.1	22.9	47.0
	% within RELATIONSHIP TYPE	76.6%	23.4%	100.0%
	% within BEHAVIOUR DICHOTOMY	63.2%	20.4%	42.3%
	% of Total	32.4%	9.9%	42.3%
Total	Count	57	54	111
	Expected Count	57.0	54.0	111.0
	% within RELATIONSHIP TYPE	51.4%	48.6%	100.0%
	% within BEHAVIOUR DICHOTOMY	100.0%	100.0%	100.0%
	% of Total	51.4%	48.6%	100.0%

Table 4.5.

Differences in Intentions to Engage in Unprotected Sex Across the
Relationship Styles

| | | INTENTIONS to have unprotected sex in the next 6 months | | |
		does not intend	intends	Total
Exclusive Relationship	Count	20	31	51
	Expected Count	26.4	24.6	51.0
	%within RELATIONSHIP TYPE	39.2%	60.8%	100.0%
	%within INTENTIONS	34.5%	57.4%	45.5%
	% of Total	17.9%	27.7%	45.5%
Casual Relationship	Count	3	10	13
	Expected Count	6.7	6.3	13.0
	%within RELATIONSHIP TYPE	23.1%	76.9%	100.0%
	%within INTENTIONS	5.2%	18.5%	11.6%
	% of Total	2.7%	8.9%	11.6%
No Relationship	Count	35	13	48
	Expected Count	24.9	23.1	48.0
	%within RELATIONSHIP TYPE	72.9%	27.1%	100.0%
	%within INTENTIONS	60.3%	24.1%	42.9%
	% of Total	31.3%	11.6%	42.9%
Total	Count	58	54	112
	Expected Count	58.0	54.0	112.0
	%within RELATIONSHIP TYPE	51.8%	48.2%	100.0%
	%within INTENTIONS	100.0%	100.0%	100.0%
	% of Total	51.8%	48.2%	100.0%

Tables 4.4 and 4.5 reveal that 67% of participants in exclusive relationships reported not using condoms, and 33% of participants in the same group reported using condoms. From participants in casual/non-exclusive relationships, 69% reported not using condoms, and 31% reported using them. Finally, 77% of participants in no relationships reported using condoms, and 23% reported not using them in the past. The Pearson Chi-Square coefficient was 20.82, $p < .0001$.

Regarding intended non-condom use, similar results were found. Specifically, 61% of participants in exclusive relationships did not intend to use condoms, and 39% of participants in the same group intended to use them. From participants in casual/non-exclusive relationships, 77% reported intentions not to use condoms, and 23% reported intentions to use them. Finally, 27% of participants in no relationships reported intentions not to use condoms, and 23% intended to use them in the future. The Pearson Chi-Square coefficient was 16.10, $p < .0001$.

Additionally, graph 4.1 provides a visual representation of past non-condom use across cultures and RS
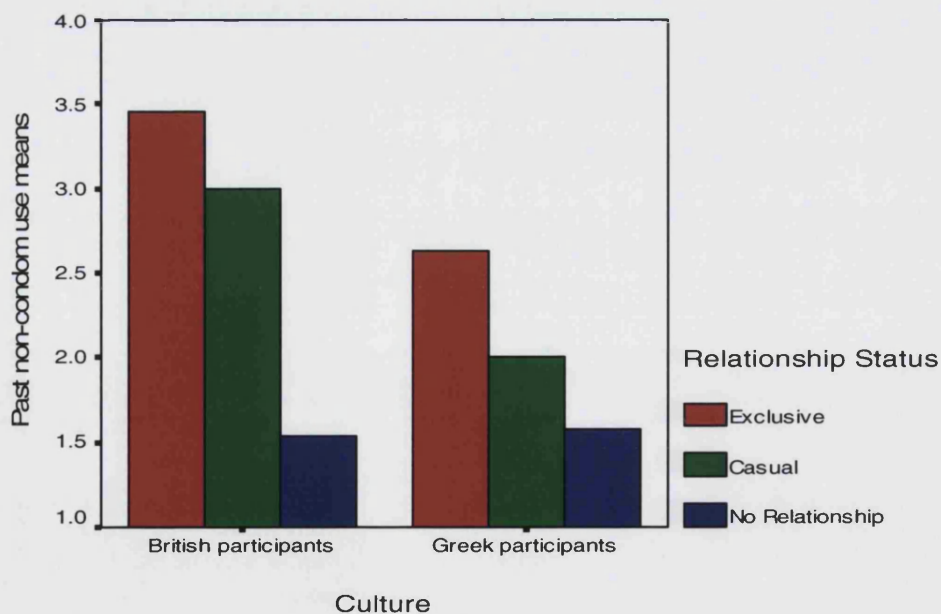
Graph 4.1. Distribution of past non-condom use scores as a function of culture and relationship status.

C. Predictors of Behavioural Intentions

In order to identify important predictors of intentions to engage in non-condom use a number of multiple regression analyses were performed. Extensive preliminary analyses were carried out and no assumption violations were found. To elaborate, adequate sample size for generalizability and power considerations was assessed. Tabachnick and Fidell (1996), provide a formula used to calculate adequate sample size, based on the number of variables employed. The formula is N > 50 + 8m, where m is the number of independent variables. The maximum number of independent variables used in multiple regression analyses was 8 (some analyses employed fewer than 8 independent variables). Based on the formula, 114 participants were needed; this study had 112 respondents.

Multicollinearity (very high correlations between the independent variables) and *singularity* (one independent variable is a combination of other independent variables) were not an issue. Multicollinearity was assessed via the correlation coefficients and via the tolerance values (multiple correlations among independent variables). The tolerance values for the independent variables should not be near 0. In this case, the lowest value was .28; thus it can be concluded that multicollinearity was not violated. With the possible exception of the control scale, the scales measured conceptually and theoretically independent variables, thus singularity was assured. The PBC scale, based on Ajzen's (2002b) suggestion, should consist of both perceived behaviour control and self-efficacy items, treated, however, as one variable. Some authors have argued for a composite control score, combining PBC and self-efficacy (e.g., Ajzen, 1991; 2002b), whereas other authors posit that the PBC and self-efficacy should be manipulated separately (e.g., Rhodes & Courneya, 2003b). By inspecting the residuals scatterplots of the dependent variables and the normal probability plot of the standardized residuals, it can be inferred that the assumptions of normality, linearity and homoscedasticity were not violated. In particular, in the normal probability plot points were lined in a reasonably straight diagonal line,

from bottom left to top right. In the scatterplot, the residuals were roughly rectangularly distributed. Finally, the presence of outliers was checked by conducting an analysis for mahalanobis distances. Only one outlying case (ID number 22, with a value of 27.05) exceeded the critical Chi-Square value of 26.12. One outlying value is not uncommon in psychological research and this one did not differ greatly from the critical Chi-Square value; thus it was decided to retain the outlier in the data set and proceed with the regression analysis.

1. It was hypothesized that past behaviour would have a direct effect on intentions to have unprotected sex, over and above the influence of the TPB. This hypothesis constituted a test of the sufficiency of the TPB model to predict behavioural intentions, as well as the need to incorporate past behaviour in the TPB model.

The hypothesis was tested and confirmed by a hierarchical multiple regression analysis. TPB variables (attitudes, subjective norms and PBC) were entered at Step 1 and past behaviour was entered at Step 2. In this way it was possible to assess the predictive ability of the TPB and the additional predictive ability of past behaviour. The results showed that the model, as a whole, explained 77% of the variance (R Squared = .77). The three TPB variables were able to explain 62% of the variance of non-condom use (R Square Change = .62). The addition of past behaviour produced a statistically significant increment (14%) in the amount of variance explained (R Square Change = .14). The ANOVA table indicated that the model as a whole was significant [F (4, 106) = 87.91, p < .0001]. The individual contribution of each variable can be inspected from Table 4.1, which provides raw and standardized coefficients. Past behaviour made the strongest statistically unique contribution (beta = 0.54) to explaining intended non-condom use, over and above the variables of the TPB.

Table 4.1

Summary of Hierarchical Regression Analysis for Variables Predicting Participants' Intentions to Engage in Unprotected Sex (N = 112)

Variable	B	SE B	β
Step 1			
Attitudes	-0.74	0.11	-0.56***
PBC	-0.47	0.11	-0.24***
Subjective norms	-0.35	0.11	-0.27**
Step 2			
Attitudes	-0.30	0.11	-0.23**
PBC	-0.27	0.10	-0.14**
Subjective norms	-0.28	0.09	-0.22**
Past behaviour	0.44	0.05	0.54***

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

*Note: R Squared Change = .62, for Step 1;

ΔR Squared Change = .14, for Step 2 ($p < .0001$).

2. Time Perspective (TP) was expected to enhance the predictive ability of the TPB.

This hypothesis was tested with a hierarchical multiple regression analysis. TPB variables (attitudes, subjective norms and PBC) were entered at Step 1 and TP was entered at Step 2. In this way it was possible to assess the predictive ability of the TPB and the additional predictive ability of TP. The results showed that the model, as a whole, explained 63% of the variance (*R Squared* = .63). The three TPB variables were able to explain 62% of the variance of non-condom use (*R Square Change* = .62). The addition of TP failed to produce a significant increment (*R Square Change* = .01, ns). The ANOVA table indicated that the model as a whole was *significant* [*F* (5, 106) = 36.85, $p < .0001$]. The individual contribution of each variable can be inspected from Table 4.2, which provides raw and standardized coefficients.

Table 4.2

Summary of Hierarchical Regression Analysis for Variables Predicting Participants' Intentions to Engage in Unprotected Sex (N = 112)

Variable	B	SE B	β
Step 1			
Attitudes	-0.74	0.11	-0.56***
Subjective norms	-0.35	0.11	-0.27**
PBC	-0.47	0.12	-0.24***
Step 2			
Attitudes	-0.76	0.11	-0.57***
Subjective norms	-0.38	0.11	-0.29**
PBC	-0.44	0.12	-0.22***
Future TP	0.14	0.17	0.05
Present TP	-0.20	0.17	-0.09

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

Note: R Squared Change = .62, for Step 1, ($p < .0001$);

ΔR *Squared Change = .0.1*, for Step 2, n.s.

3. Culture was expected to add to the predictive ability of the TPB.

In a hierarchical multiple regression test, TBP variables were entered at Step 1, followed by Culture at Step 2. In this way it was possible to assess the predictive ability of the TPB and the additional benefit offered by culture. The results showed that the model, as a whole, explained 64% of the variance (*R Squared* = .64). The three TPB variables were able to explain 62% of the variance of non-condom use (*R Square Change* = .62). The addition of culture produced a small, yet, significant increment (2%) in the amount of variance explained (*R Square Change* = .02). The ANOVA table indicated that the model as a whole was significant [*F* (4, 107) = 48.30, $p < .0001$]. The individual contribution of each variable can be inspected from Table 4.3, which provides raw and standardized coefficients.

Table 4.3

Summary of Hierarchical Regression Analysis for Variables Predicting Participants' Intentions to Engage in Unprotected Sex (N = 112)

Variable	B	SE B	β
Step 1			
Attitudes	-0.74	0.11	0.56***
Subjective norms	-0.35	0.11	-0.27**
PBC	-0.47	0.12	-0.24***
Step 2			
Attitudes	-0.82	0.12	-0.62***
Subjective norms	-0.35	0.11	-0.27**
PBC	-0.30	0.14	-0.15*
Culture	0.46	0.20	0.17*

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

Note: R Squared Change = .62, for Step 1 ($p < 0.001$);

ΔR Squared Change = .02, for Step 2 ($p < .05$).

4. Relationship status dichotomy (RS - in an exclusive relationship or not) was expected to enhance the predictive ability of the TPB for intended non-condom use.

In a hierarchical multiple regression test, TPB constructs were entered at Step 1, followed by RS dichotomy at Step 2. Results revealed that the model, as a whole, explained 64% of the variance (R Squared = .64). The three TPB variables were able to explain 62% of the variance of non-condom use (R Square Change = .62). The addition of RS produced a small, yet, significant increment (1.5%) in the amount of variance explained (R Square Change = .015). The ANOVA table indicated that the model as a whole was *significant* [F (4, 107) = 47.70, $p < .0001$]. The individual contribution of each variable can be inspected from Table 4.4, which provides raw and standardized coefficients.

Table 4.4

Summary of Hierarchical Regression Analysis for Variables Predicting Participants' Intentions to Engage in Unprotected Sex (N = 112)

Variable	B	SE B	β
Step 1			
Attitudes	-0.74	0.11	0.56***
Subjective norms	-0.35	0.11	-0.27**
PBC	-0.47	0.12	-0.24***
Step 2			
Attitudes	-0.67	0.12	-0.50***
Subjective norms	-0.35	0.11	-0.27**
PBC	-0.45	0.12	-0.23***
RS	0.36	0.17	0.14*

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

Note: R Squared Change = .62, for Step 1 ($p < .0001$);

ΔR Squared Change = .015, for Step 2 ($p < .05$).

5. Further multiple regression analyses (standard) were employed to assess: (a) how much variance of intended non-condom use could be explained by each of the independent variables; (b) how much variance would be explained by each of the predictors, whilst splitting the file into dating and single participants. This second analysis would assess if the predictive ability of the independent variables changes as a function of relationship context.

In the first regression analysis, results revealed that the model explained 78% of the variance in intended non-condom use (*R Square* = .78). In evaluating the unique contribution of each of the predictors, past behaviour made the strongest unique contribution to explaining intended non-condom use (beta = 0.51), followed by attitudes (beta = -0.26), and subjective norms (beta = -0.22). The ANOVA table indicated that the model as a whole was statistically significant [F (8, 102,) =

46.20, $p < .0001$]. Table 4.5a provides the beta coefficients and their level of significance.

In the second regression analysis, split file resulted into two Models. Model 1 referred to single participants, and Model 2 referred to participants who were dating. Model 1 explained 62% of the variance in intended non-condom use (*Adjusted R Squared* = .62). In evaluating the unique contribution of each of the predictors, attitudes made the strongest unique contribution to explaining intended non-condom use (beta = -.50), followed by past behaviour (beta = .31), and subjective norms (beta = -.22). The ANOVA table indicated that the model as a whole was statistically significant [F (7, 48,) = 13.82, $p < .0001$]. Table 4.5b provides the beta coefficients and their level of significance.

Model 2 explained 77% of the variance in intended non-condom use (*Adjusted R Square* = .77). In evaluating the unique contribution of each of the predictors, past behaviour made the strongest unique contribution to explaining intended non-condom use (beta = .64), followed by subjective norms (beta = -.27), and attitudes (beta = -.13, n.s.). The ANOVA table indicated that the model as a whole was statistically significant [F (7, 47,) = 27.85, $p < .0001$]. Table 4.5c provides the beta coefficients and their level of significance.

Table 4.5a

Summary of Standard Regression Analysis for Variables Predicting Participants' Intended Unprotected Sex (N=112)

Variable	B	SE B	β
Attitudes	-0.35	0.11	-0.26**
Subjective norm	-0.29	0.09	-0.22**
PBC	-0.14	0.11	-0.07
Culture	0.30	0.16	0.11*
RS dichotomy	0.13	0.14	0.05
Future TP	0.14	0.13	0.05
Present TP	-0.04	0.14	-.016
Past Behaviour	0.42	0.05	0.51***

*$p < .07$; **$p < .001$; ***$p < .0001$.

Table 4.5b – Single Participants

Summary of Standard Regression Analysis for Variables Predicting Participants' Intended Unprotected Sex (N=57)

Variable	B	SE B	β
Attitudes	-0.58	0.16	-0.50**
Subjective norm	-0.22	0.12	-0.22*
PBC	-0.07	0.17	-0.05
Culture	0.37	0.22	0.19
Future TP	0.15	0.18	0.07
Present TP	-0.25	0.20	-0.14
Past Behaviour	0.25	0.08	0.31**

$*p < .07;$ $**p < .001;$ $***p < .0001.$

Table 4.5c – Dating Participants

Summary of Standard Regression Analysis for Variables Predicting Participants' Intended Unprotected Sex (N=55)

Variable	B	SE B	β
Attitudes	-0.19	0.16	-0.13
Subjective norm	-0.38	0.15	-0.27*
PBC	-0.17	0.16	-0.09
Culture	0.26	0.24	0.09
Future TP	0.12	0.19	0.04
Present TP	0.07	0.22	0.03
Past Behaviour	0.52	0.07	0.64***

$*p < .01;$ $**p < .001;$ $***p < .0001.$

D. Moderation

Prior to moderation, the variables were *centred*, a procedure which involves subtracting the sample mean of a variable from the variable. This process results in deviation scores with a mean of zero; as a result, multicollinearity between first-order variables and their interactive terms is minimized. Centred variables were then multiplied to form the interactive terms. According to Tabachnick and Fidell (1996), forming

interactive terms from uncentred variables may lead to high predictor-predictor relations, resulting in low tolerance and statistical instability.

1. TP was hypothesized to moderate the attitude-intentions relationship. Also, the possibility of TP moderating the PBC-intentions and subjective norms-intentions relationships was explored.

Separate hierarchical multiple regression analyses were employed to investigate these hypothesized moderator interactions. In particular, future TP, present TP, attitudes, subjective norms, and PBC were entered at Step 1, followed by their respective interactive terms at Step 2. Present TP moderated the attitude - intended behaviour path and that was the only statistically significant interaction. The interactive term increased the variance in intended non-condom use by 2%, that is, from 56% in Step 1 to 58% in Step 2. The model, as a whole, was significant [F (3, 108) = 48.87, $p < .0001$]. Table 4.6 presents the relevant coefficients and their significance levels.

Table 4.6

Prediction of Intended Non-Condom Use from First-Order Factors and the Interactive Term (Step 2)

(N=112)

Variable	B	SE B	β
Step 1			
Present TP	-0.23	0.12	-0.09
Attitudes	-1.02	0.09	-0.77***
Step 2			
Present TP	-0.25	0.17	-0.10
Attitudes	-1.02	0.09	-0.78***
Attitudes x PTP	-0.38	0.18	-0.13*

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

Note: R Squared Change = .56 for Step 1 ($p < .0001$); Δ*R Squared Change* = .02 for Step 2 ($p < .05$).

2. Relationship status and culture were expected to moderate the attitude – intended behaviour path.

Moderator and predictor (independent variable) should be in the same level of measurement (Bramwell, 1996). Thus, attitudes, subjective norms, and PBC were transformed into dichotomies; their respective medians were used as the cut-off points. For this hypothesis, interaction effects were assessed by 2 x 2 between-groups ANOVA tests.

Results revealed that RS moderated the attitude – intended behaviour path. There were significant main effects between attitudes and intended non-condom use [F (1, 108) = 53.10, p < .0.01] and between RS and intended non-condom use [F (1, 108) = 12.88, p < .0001]. Furthermore, a significant interaction between attitudes and RS was established [F (1, 108) = 5.41, p < .05].

3. Potential moderator interactions between the components of the TPB in relation to intended non-condom use were explored, whilst taking into consideration TP, RS, and culture. Specifically, it was investigated whether or not attitudes, PBC, and subjective norms would moderate each other in predicting intended non-condom use, whilst controlling for TP, RS, and cultural influences. A hierarchical multiple regression analysis was employed to assess these moderator interactions. Future TP, present TP, RS, and culture were entered at Step 1, followed by attitudes, subjective norms and PBC at Step 2, followed by the interactive terms at Step 3.

Results showed that the model, as a whole, explained 68% of the variance (*R Squared* = .68). In Step 1, only relationship status predicted intended non-condom use, explaining 21% of the variance. After the variables in Step 1 were controlled for, the addition of the TPB variables in Step 2 increased the predicted variance by 45% to 66% (*R Square Change* = .045). Finally, when variables in both Steps 1 and 2 were removed, the interaction of attitudes and norms predicted an additional 2% (*R Square Change* = .02), increasing thus the overall predicted

variance of intended non-condom use to 68% (*R Square Change* = .02). Table 4.7 provides the relevant coefficients.

Table 4.7

Prediction of Intended Non-Condom Use from TP, RS, and Culture (Step 1), TPB Variables (Step 2), and Interactive Terms (Step 3) (N=112)

Variables	B	SE B	β
Step 1			
Future TP	0.20	0.24	0.07
Present TP	-0.43	0.25	0.16
Culture	0.42	0.25	-0.00
Relationship dichotomy	1.15	0.23	0.43***
Step 2			
Future TP	0.13	0.16	0.05
Present TP	-0.63	0.17	-0.02
Culture	0.38	0.20	0.14
Relationship dichotomy	0.31	0.17	0.17
Attitudes	-0.75	0.12	0.57***
Subjective norms	-0.36	0.11	-0.28**
PBC	-0.29	0.14	-0.15*
Step 3			
Future TP	0.14	0.16	0.05
Present TP	-0.02	0.17	-0.00
Culture	0.35	0.20	0.13
Relationship dichotomy	0.32	0.17	0.12*
Attitudes	-0.73	0.12	-0.55***
Subjective norms	-0.29	0.12	-0.22**
PBC	-0.32	0.15	-0.16*
Attitudes x Norms	0.17	0.07	0.15**
Attitudes x PBC	0.86	0.18	0.05
Norms x PBC	-0.12	0.18	-0.07

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

Note: R *Squared Change* = .21 for Step 1 ($p < .0001$); ΔR *Squared Change* = .45 for Step 2 ($p < .0001$); ΔR *Square Change* = .02 for Step 3 ($p < .0001$)

4. Finally, time perspective, relationship status, and culture were hypothesized to moderate the intention-past behaviour and attitude - past behaviour relationship.

A hierarchical multiple regression test was used to assess the moderating effects of TP on the intention-past behaviour path, the attitude–past behaviour path, the PBC–past behaviour, and the norms–past behaviour path. Present TP, future TP, intentions, attitudes, subjective norms, and PBC were entered at Step 1, followed by their interactive terms at Step 2. No statistically significant moderation effects were found.

The moderation effects of relationship status were assessed via 2 x 2 between-groups ANOVA tests. Here too, all variables were treated as categorical and, in particular, relationship status had three levels: exclusive, casual, and no relationship. Results revealed that RS moderated the intentions-past behaviour path. There were significant main effects between intentions and non-condom use $[F(1, 105) = 41.59, p < .0001]$ and between all three relationship types and non-condom use $[F(2, 105) = 6.99, p < .001]$. Furthermore, a significant interaction between intentions and RS was established $[F(2, 105) = 3.78, p < .05]$. Relationship status also moderated the attitudes-past behaviour path. Specifically, there were significant main effects for attitudes $[F(1, 105) = 21.42, p < .0001]$ and RS $[F(2, 105) = 8.92, p < .0001]$. A significant interaction between attitudes and RS was demonstrated $[F(2, 105) = 7.30, p < .001]$.

Statistically significant moderating effects of culture were not established.

E. Sufficiency of the TRA

The addition of PBC has been found to enhance the predictive ability of the TRA, especially with regard to behaviours low in volitional control. This notwithstanding, a lot of studies conducted in the area of sexual risk taking have either not found this added effect, or have found a small significant added effect of PBC. Hierarchical multiple regression

analyses were conducted in order to investigated the suspected adequacy of the TRA in the prediction of intended non-condom use. The TRA variables (attitudes and subjective norms) were entered as predictors in Step 1, and PBC was entered in Step 2. It should be pointed out that, according to the recommendations of Ajzen (2002b), in the TPB the PBC construct is best measured by combining self-efficacy items and pure perceived personal control (controllability) items. Although related, the TPB regards self-efficacy and controllability constructs as conceptually distinct (Ajzen, 1985; Ajzen, 1991; Ajzen, 2002b). Other authors disagree and suggest that PBC and self-efficacy are indistinguishable; for example it has been stated that "PBC should be simply relabelled as self-efficacy and considered as such" (Schwarzer, 1992). To be sure, three regression analyses were conducted: first, the PBC variable incorporated both controllability and self-efficacy items, according to the requirements of the TPB; next analyses were conducted employing controllability and self-efficacy items separately. This would give a clear picture of the contribution of control items, individually and combined.

i. Combined effect of self-efficacy and controllability.

The results showed that the model, as a whole, explained 62% of the variance (R *Squared* = .62, p < .0001). TRA variables (attitudes and subjective norms) explained 57% of intended non-condom use and PBC (self-efficacy and controllability) enhanced the equation by 5% (R *Square Change* = .054, p < .0001). The ANOVA table indicated that the model as a whole was *significant* [F (3, 108) = 60.12, p < .0001]. The order of importance of the predictors was: attitudes (beta = -.60), PBC (beta = -.23), and subjective norms (beta = -.20).

ii. Effect of controllability items.

Results revealed that the model, as a whole, explained 58% of the variance (R *Squared* = .58, p < .0001). TRA variables (attitudes and subjective norms) explained 57% of intended non-condom use and controllability items enhanced the equation by 1% (R *Square Change* =

.01, n.s). The ANOVA table indicated that the model as a whole was significant [F (3, 108) = 50.17, $p < .0001$]. The order of importance of the predictors was: attitudes (beta = -.60), subjective norms (beta = -.20), and perceived control (beta = -.10, n.s).

iii. Effect of self-efficacy items.

It was found that the model, as a whole, explained 62% of the variance (R Squared = .62, $p < .0001$). TRA variables (attitudes and subjective norms) explained 57% of intended non-condom use and self-efficacy enhanced the equation by 5% (R Square Change = .055, $p < .0001$). The ANOVA table indicated that the model as a whole was significant [F (3, 108) = 60.38, $p < .0001$]. The order of importance of the predictors was: attitudes (beta = -.60), PBC (beta = -. 23), and subjective norms (beta = -.20).

Results suggest that the increment provided by self-efficacy items (5%) may not be enough to justify the use of the enhanced TRA (that is the TPB). Controllability items were non-significant. Additionally, PBC was not associated with past or intended non-condom use. The PBC item may be conceptually problematic.

Chapter 5
Discussion: Study 1

5.1. Summary of Results of Study 1

Associations.

Attitudes, subjective norms, culture, past condom use and relationship status (RS) revealed statistically significant relationships with intended non-condom use. Past non-condom use showed the strongest correlation with intended non-condom use and attitudes showed the second strongest correlation. Time perspective (TP) and perceived behavioural control (PBC) did not provide significant associations with intended non-condom use. Attitudes, subjective norms and RS were significantly associated with past non-condom use. PBC was not correlated with past non-condom use. TP and culture showed marginally significant associations with past unprotected sex. Gender was not associated with either intended or past non-condom use.

Predictions.

The variables of the theory of reasoned action (TRA) were sufficient predictors of intended unprotected sex; PBC was not a substantial addition to the TRA (attitudes and subjective norms) and proved to be a problematic variable. When the sample was analyzed as a whole, past behaviour was the strongest predictor of non-condom use, followed by attitudes. When the sample was split for RS, past behaviour was the strongest predictor of non-condom use for participants who were dating, whereas, attitudes were the strongest predictors of unprotected sex for single participants.

Interactions.

RS and TP moderated the attitude-intended behaviour path. Attitudes and norms interacted to predict intended non-condom use, whilst controlling for TP, RS, and cultural influences.

5.2. Theoretical Implications

i. TRA versus TBP.

In accordance with results of previous studies (e.g., Albarracin, Johnson, Fishbein, & Muellerleile, 2001; Chan & Fishbein, 1993; Sutton, McVey, & Glanz, 1999; Wilson, Zenda, McMaster, & Lavelle, 1992), the superiority of the TPB over the most basic TRA was not established, and no significant relationship was found between PBC and past or intended non-condom use.

To elaborate, the controllability constructs (i.e.: "how much control do you believe you have over having unprotected sex in the next six months" and "whether I have unprotected sex in the next six months is entirely up to me") did not add to the predictive ability of the TRA, over and above attitudes and subjective norms. The self-efficacy constructs (i.e.: "for me, to use a condom in the next six months is" and "I am confident that I could use a condom if I wanted to, in the next six months") added a significant 5% to the variance. In this study, PBC was operationalized as a combination of controllability and self-efficacy items, as suggested by Ajzen (2002b). PBC was regarded as related to, but theoretically distinct from self-efficacy. As noted in Chapter 2, the literature has suggested that the PBC construct may well be problematic. For example, there is considerable disagreement about whether to operationalize PBC as confounded with self-efficacy, or not. Bennett and Bozionellos (2000), in an overview of research regarding the ability of the TPB to predict condom use, found that studies employing PBC measures unconfounded by self-efficacy failed to improve the explanation of variation in behavioural intentions. Only separate measures of self-efficacy, or measures of PBC confounded with self-efficacy, tended to predict intended condom use; this is in accordance with the current study.

An inspection of the means of the PBC construct may provide a plausible explanation for this finding. Participants believed that they had control over using condoms: their mean PBC score was 3.95, on a 1-5

likert scale (that is, participants *agreed* that they had control over the condom use and that using condoms was *easy*). Practically, this means that participants believed that potential barriers of using condoms, such as cost, negotiation and pleasure issues, would not deter them from using condoms, should they decide to. Thus, on the average, participants of this study regarded condom use as a behaviour under volitional control. The TPB was developed to account for behaviours *low* in actual and perceived control. When the behaviour in question is perceived to be *high* in actual and/or perceived control, then the TPB reduces to the TRA. Thus, it is argued here that the TPB should not be generally regarded as superior to the more basic TRA in predicting health related activities; instead the choice between the two models ought to be sample/population and behaviour specific.

ii. Effects of past behaviour.

In the present study, past behaviour (i.e., frequency of non-condom use in the last six months) yielded a strong association with intended non-condom use in the next six months, suggesting that participants who had engaged in unprotected sex in the past intended to do so in the future.

More importantly, past non-condom use proved to be the strongest predictor of intended non-condom use, over and above the variables of the TPB (attitudes, subjective norms, and PBC). Also, past behaviour was the best predictor of intended unprotected sex in relation to all of the predictors accounted for in this study (TBP, RS, culture, gender, and TP). This is a common finding in sexual-risk studies, applying the TRA and the TPB (e.g., Rise, 1992; Kashima, Gallois, & McCamish, 1993; Ouellete & Wood, 1998; Sutton, McVey, & Glanz, 1999). As put forth in chapter 2, the literature has provided three possible explanations for past behaviour being the strongest predictor of non-condom use, over and above the cognitive variables of the TRA/TPB model:

1. Past behaviour – via habit formation - is an independent predictor of intended non-condom use. Habit formation implies that the

behaviour is more automatic in nature, than conscious. The degree of automaticity of a health/risk behaviour depends on context constancy (Ouellette & Wood, 1998); behaviours which take place in unstable, changing contexts are less automatic and require conscious deliberation.

Results from Study 1 provided support for the above argument. Specifically, regression analyses for single participants (relationship context unstable) revealed that the strongest predictor of intended non-condom use were attitudes, followed by past non-condom use. By contrast, regression analyses for participants who were in exclusive relationships (relationship context stable) identified past non-condom use as the strongest predictor of intended non-condom use; and attitudes gave a non-significant effect. Thus, it can be suggested that participants in exclusive relationships operated from stable contexts, which facilitated habit formation (the habit being diminished condom use). In such a context, past behaviour is a strong predictor and attitudes are weak. By contrast, single participants operated from an unstable context, wherein they had to assess each new partner or each new relationship afresh. Such a changing context does not facilitate automatic responses (habits) but rather, enhances conscious cognitive processes (e.g., attitudes).

2. Other authors do not regard past behaviour as a valid predictor of intended and future behaviour, and reject its inclusion as a standard part in cognitive-based theoretical models. The explanation offered in this case for the relationship between past behaviour and intended/future behaviour, when controlling for the TRA/TPB constructs, is that the TRA/TPB is insufficient because other important cognitive variables have not been considered (Ajzen, 1991; Ajzen, 2002a).

Results contrasted this argument, as the effects of past behaviour were not mediated by PBC. As discussed above, PBC was found to be a problematic construct, having neither a correlational nor a predictive relationship with intended non-condom use.

3. It has further been suggested that the relationship between past and intended/future behaviour, when controlling for the TPB, may be a

measurement error (Ajzen, 1991; Ajzen, 2002a). Although this possibility exists generally in research, efforts were made, in the current study, for accurate operationalization and measurement of constructs. TPB variables were measured according to Ajzen's (2002b) guidelines.

The approach of this study is that past behaviour should not be regarded merely as measurement error or as an index of the insufficiency of the TRA/TPB. It is suggested here that the effects of past behaviour should be taken into consideration when employing socio-cognitive models in health research. This is not a simple solution, because accepting past behaviour as an independent predictor and using it in conjunction with cognitive theoretical frameworks could have the following consequences. First, the status quo of the widely used socio-cognitive models, as well as the usefulness of the resulting studies, would be questioned. An enormous amount of research has been conducted regarding building cognitive theories and employing them in health/risk research; thus, the resulting status of this work could be threatened if past behaviour is treated as a significant independent predictor. Second, as Kanvil and Umeh (2000) point out, the inclusion of past behaviour as a standard part of dominant health behaviour models would have disturbing implications for existing health promotion efforts. Traditionally, health campaigns have targeted changing peoples' cognitions, persuading people to change their attitudes toward rejecting risky activities. However, all these efforts may be unsuccessful if people intend to behave as they behaved in the past (Sutton, 1994). The influence of past condom use on intended condom use was further investigated in more depth in the second study of this thesis.

iii. Relationship status (RS).

As discussed in the previous section, past behavioural influences acquire meaning and significance in relation to specific contexts. Results of this study provided evidence for this argument; RS is regarded here as the context within which sexual behaviour (including sexual risk-taking) is shaped. As Simoni, Walters and Nero (2000) have argued, the

behaviour 'having sex without a condom' is meaningless stripped from its relational context; in exclusive relationships, condoms may basically imply mistrust, infidelity, lack of psychophysical proximity, and denial of the potential of being a parent, instead of protection.

In this study, RS was significantly correlated with both past and intended non-condom use. Also, there were statistically significant differences in past and intended non-condom use across the three relationship categories. Participants in the 'exclusive' relationship category gave the highest reports of unprotected sex. Similar results have been established by a number of investigators (e.g., Glassman & Albarracin, 2003; Kordoutis, Loumakou, & Sarafidou, 2000; Lansky, Thomas, & Earp, 1998; Moore & Halford, 1999; Rhodes & Cusick, 2000; Rhodes & Cusick, 2002; Warr, 2001). An interesting, and somewhat counter-intuitive, finding of this study was that participants in both exclusive and casual relationships reported medium levels of intended and actual condom use. This finding is consistent with previous research, suggesting that people may consistently have unprotected sex because they tend to perceive each new relationship as exclusive, and thus safe from sex-related risks; a practice called *serial monogamy* (Catania, Stone, Binson, & Dolcini, 1995; Kordoutis, Loumakou & Sarafidou, 2000).

Furthermore, it was found here that RS dichotomy (being in a relationship or not) marginally but significantly increased the predictive ability of the TPB for intended non-condom use. This result suggests that RS may aid the prediction of non-condom use over and beyond cognitive variables. Although a significant enhancement of 1.5% found in this study does not suffice for suggesting a possible inclusion of contextual variables in the TPB, other authors have advocated this. For example, Gebhardt, Kuyper, and Greunsven (2003) investigated the need for intimacy in steady and casual relationships combined with TPB variables as determinants of condom use, and postulated expanding the TPB with constructs relating to the meaning of sex and relationships.

A final result revealed the moderating properties of RS. RS dichotomy (single versus dating participants) moderated the attitudes - intended unprotected sex relationship. This means that a significant difference was found in the effect of attitudes on intended non-condom use for dating and single participants. Specifically, participants in relationships intended to have unprotected sex, even if they held negative attitudes towards unprotected sex. Conversely, single participants did not intend to have unprotected sex, even if they held positive attitudes toward the behaviour in question.

Based on the above findings, it is argued here that RS is a crucial factor in explaining condom-use. RS prescribes which feelings and sexual practices are appropriate: in exclusive relationships, requirements of love, trust and intimacy tend to inhibit condom use. People who are single and have sexual intercourse without the requirement of intimacy and trust tend to use condoms. Although quite a few studies have demonstrated that RS and associated feelings significantly influence ` condom use, these variables have been downplayed in psychological sexual risk research, in favour of studying rational cognitive variables (Green, 2002). The trend is for quantitative studies to manipulate cognitive constructs (which are assumed to be stable across settings, ensuring thus behavioural uniformity), and for qualitative studies to emphasize subjective meanings, feelings, and practices which tend to vary across settings. It is suggested that more research is needed regarding RS as a main contextual influence of sexual risk. In-depth analyses of RS influences were carried out in Study 2, thus, adding further to the literature of contextual influences on sexual risk.

iv. Time Perspective (TP).

Although the hypotheses involving the TP construct were formed on the basis of extensive literature search and study, hypotheses were only partially confirmed.

To elaborate, a small relationship between present TP and past unprotected sex was found, on the basis of the Chi-Square test. No significant correlations were found between TP constructs (future or present) and intended and past non-condom use. TP did not add to the predictive ability of the TPB. These results did not support previous findings which have suggested that TP is significantly associated with sexual risk-taking (e.g.: Oskamp, Midnick, & Berger, 1974; Rothspan & Read, 1996). It was originally hypothesized that Greek participants would score higher on the PTP scale and thus report higher intended and past non-condom use, as compared to British participants. Although TP was significantly related to culture, the direction of this relationship was not as hypothesized. British students scored higher on the present TP scale and reported having more unprotected sex in the past six months, as compared to their Greek counterparts; this finding was marginally significant (p = 0.07). These results contrast with previous findings which demonstrated that people living in western, industrialized societies generally score higher on future TP scales, as compared to people living in more traditional societies (e.g.: Gonzalez & Zimbardo, 1985; Hall & Hall, 1999; Levine, West, & Reis, 1980; Nurmi, 1991). It should be remembered here that the theory of Time Perspective predicts that people who score higher in present TP should also take more risks, in general. Thus, although the cultural aspect of TP was not established in this study, risk-taking was observed according to theory: participants higher in present TP reported more non-condom use.

Although TP did not enhance the predictive ability of the TPB, the present TP construct moderated the attitudes – intended behaviour path. This meant that participants who approved of unprotected sex were also inclined to have more unprotected sex, but only if they scored high on the present TP scale (beta of interactive term had negative sign, implying a negative relationship between present TP and attitudes). Or, conversely, participants disapproving of unprotected sex were also less inclined to engage in unprotected sex, but only if they scored low on the present TP scale.

There are two possible reasons for the mediocre results regarding the impact of TP on sexual risk taking. First, the use of the short version of the Zimbardo Time Perspective Inventory (ZTPI - short form) for the measurement of TP may not be adequate. Although this short version has been previously employed with success to investigate risk taking activities, such as risky driving (e.g., Zimbardo, Keough, & Boyd, 1997), it may not be adequate in capturing more sophisticated behaviours, such as sexual risk taking. Thus, it was decided to use the full version of the ZTPI (ZTPI: Zimbardo & Boyd, 1999) in the second study. The full version of the ZTPI measures present and future TP with 38 items and, moreover, it differentiates between fatalistic and hedonistic present TPs. Second, the original conceptualization of a straightforward, linear relationship between TP and non-condom use may be too simplistic. TP is a stable, individual-oriented variable, non-consciously affecting the behaviour of each person individually. By contrast, sexual behaviour requires the participation of more than one person, and is determined by individual oriented, as well as relationship-oriented characteristics. Thus, individual-oriented variables, such as TRA/TPB variables and TP, ought to be assessed in conjunction with relationship-oriented characteristics, such as the partners' interactive behaviour and meanings.

v. Cultural Influences.

The expectation that cultural differences would be established in intended and past non-condom use was partially confirmed. Cultural differences were found for past non-condom only via the Chi-Square test; British participants reported marginally more non-condom use as compared to their Greek counterparts. Although intentions to engage in unprotected sex were also higher for British participants than for Greek participants, this result was not statistically significant. A reason for the marginally significant results may be the small sample size. Even though the number of participants was adequate for statistical analyses (55 British and 57 Greek participants), larger samples may be needed to

discern cultural differences. Study 2 dealt with this issue as 100 participants fell within each category.

A significant correlation was found between culture and PTP, with British participants scoring higher on the PTP scale. Thus, once again, it seems that cultural differences exist both in temporal orientations and in past non-condom use. Nevertheless, at this point, it is premature to attempt interpretations of the above results or provide specific conclusions. The relationship between culture, TP and non-condom use was further investigated in Study 2.

The ability of culture to predict intended non-condom use was established; culture made the fourth statistically significant contribution to the equation, after past behaviour, attitudes and subjective norms. Also, culture produced a small but significant increment in the predictive ability of the TPB.

These findings revealed cultural variations, in the form of ethnic differences. However, culture is a wide term which encompasses many more factors, ranging from the country's political and economic situation, religion, and medical practices, to more personal variables, such as social class, subculture membership and gender power issues. Despite the fact that this study does not aim to uncover the intricacies involved in cultural influences, it would be an omission not to investigate in considerable depth certain aspects of the wider social setting. It is proposed, that, in addition to measuring cultural variations, to consider how the medical system views and promotes contraception in each culture. Medical issues, as an integral part of one's culture, were investigated qualitatively in Study 2.

vi. Moderation between components of TPB.

Potential moderator interactions between the components of the TPB were explored, whilst taking into consideration TP, RS, and culture. The interaction of attitudes and norms predicted a significant additional 2% of intended non-condom use, over and above the TPB and the remaining variables. This implies that positive attitudes facilitated non-

condom use only to the extent that significant others approved of having sex without a condom. This result provides some support to Eagly and Chaiken's (1993) argument for the possibility of moderator effects between the main variables of the TPB. Thus, the variables of the TPB may not only impact behavioural intentions independently, as the TPB suggests. Similar results have been documented by other authors investigating risk-taking activities; for example, Umeh and Patel (2004) found a statistically significant moderator interaction between attitudes and PBC in relation to intended ecstasy use.

It should be noted here that although the significant interaction gave only a 2% increase in the explained variability, this effect can be considered quite sturdy. According to McClelland and Judd (1993) field studies have less than 20% of the efficiency of laboratory/experimental designs for detecting moderator interactions. Also, the non-linearity of moderators (product terms) may further hinder the detection of moderated effects (Baron & Kenny, 1986). Thus, given the lower efficiency of field studies, interactions that do manifest may be quite robust, particularly if lower rates of Type I errors have been adopted (the significance level for the interaction was at .001).

5.3. Emerging Issues.

Results have provided support for certain constructs of the TRA/ TPB as being significant predictors of non-condom use, but have also raised objections towards the model.

Specifically, it is argued here that the TPB is generally not superior to its predecessor, the TRA. Also, past non-condom use and RS are crucial predictors of intended non-condom use and they could be manipulated in conjunction with TRA / TPB variables in sexual risk research.

Apart from the direct implications to the TRA / TPB, the findings suggest including wider cultural influences (i.e., temporal and ethnic) into socio-cognitive models when studying sexual risk-taking.

The above issues will be further assessed and discussed in the second study reported in this thesis.

Chapter 6

Study 2: A cross-cultural study of psychosocial factors influencing young peoples' intended non-condom use.

Methodology

6.1. Aims and Hypotheses

The main purpose of this mixed methods study was to identify and explore factors that influence young people's unprotected sex in two different cultural cohorts: British and Greek university students. More specifically, this study investigated relationships between socio-cognitive factors (i.e., attitudes and norms), culture (i.e., British versus Greek) temporal factors (i.e., having a present or future time perspective) and intended and actual non-condom use. The influence of past non-condom use on intended non-condom use was examined. Based on the findings of Study 1, relationship status was regarded and manipulated as a main influence on non-condom use. The interest placed on relationship context justified the use of mixed methodologies. Here too, the adequacy of dominant socio-cognitive theories (such as the TRA) used in health and risk research was assessed.

i. Hypotheses employing 'intended non-condom use' as the dependent variable (quantitative phase).

Associations

1. Significant associations were hypothesized between TRA variables (i.e., attitudes, subjective norms), culture, RS, TP, past non-condom use, and participants' intentions to engage in unprotected sexual activity. Regarding the temporal influences, PTP was expected to give a positive relationship with intended non-condom use, whereas FTP was expected to give a negative relationship with behavioural intentions.

Predictions

1. TP, culture, and RS were expected to enhance the predictive ability of the TRA.

2. Past behaviour was anticipated to have a direct effect on intentions to have unprotected sex, over and above the influence of the TRA.

Moderation

1. TP, relationship status, and culture were hypothesized to moderate the attitude - intentions relationship and the subjective norms - intentions relationships. Finally, potential moderator interactions between the components of the TRA in relation to intended non-condom use were explored, whilst taking into consideration TP, RS, and culture.

ii. Hypotheses employing 'past non-condom' use as the dependent variable (quantitative phase).

Associations

1. Significant associations were anticipated between intentions, attitudes, subjective norms, RS, culture, and past non-condom use.

Predictions

1. TRA variables were expected to be the strongest predictors of past non-condom use, with relationship status, TP, and culture adding significantly to the equation.

Moderation

1. TP, RS, and culture were anticipated to moderate the intention - past behaviour, the attitude - past behaviour relationship, and the subjective norms – past behaviour path.

Additionally,

1. If and how participants across the three relationship styles gave differential meanings to non-condom use was explored.

2. Possible cultural differences were assessed regarding: (a) the attributions given to the meanings of condom use in exclusive and non-exclusive relationships; (b) the evaluation of people who habitually carry condoms; and (c) the time required to reach exclusive relationship status.

iii. Aims of qualitative phase.

Interviews and documents were analyzed to study two central questions and one sub-question. The central questions of the study were: How does relationship status influence condom use in young adults? What kinds of meanings are attributed to condoms and how do these meanings shape contraceptive practices? The sub-question of the study was: How are people who organize and pre-plan potential safe-sex perceived by the sample?

As stated in Chapter 2, the need to experience intimacy within a close relationship is 'universal' (Golden, 1996). Thus, it was expected that both Greek and British participants would share a similar attitude towards preferring styles of relationships and practices that would enhance intimacy. Nevertheless, differences were expected in specific types of contraceptive choices, as a function of differential medical practices regarding contraception in the two countries. Therefore, the qualitative investigation (interview and document analysis) explored the existence of cultural similarities regarding how relationship status affects sexual risk taking, as well as cultural differences in specific contraceptive choices (e.g., the pill versus the condom).

6.2. Methodology

A. Philosophical Framework

Study 2 mixed quantitative and qualitative methodologies. Research methods associated with both quantitative and qualitative forms of data collection have recently been developed and legitimized (Creswell, 2003). This study reflects pragmatist and contextualistic philosophical stances. *Pragmatism* is mostly based on the writings of Peirce, James, Mead, and more recent writers include Rorty and Cherryholmes (Cherryholmes, 1992). Pragmatism postulates that knowledge springs from actions, situations and consequences. In research, emphasis is placed on the problem rather on specific methodologies; thus, researchers are required to use all possible

approaches to understand the problem in question. A premium is given to the *context* (e.g., social, political, economic) in which the problem occurs.

Similarly, *contextualism* posits that human knowledge is framed by the specific socio-historical and cultural setting or context within which (or among which) behaviour occurs. Contextualism has been advanced by the works of Pepper (1966), Rosnow (1981), and Rosnow and Georgoudi (1986), among others. As with pragmatism, contextualism argues for methodological pluralism in social research. Under this perspective, context is conceptualized as varying in degrees of generality and specificity. Contexts may range from the macro-level (e.g., the political context) to the micro-level (e.g., a personal relationship); psychologists usually investigate the latter level. Two contexts are relevant to this study: the participants' relationship status (in an exclusive relationship or not) and the wider cultural context in which they live (British or Greek culture). Moreover, context is not viewed here as something external or independent to the problem it refers to, as would be viewed by a Skinnerian behaviouristic approach. Rather, contexts include peoples' everyday life incidents, discourses, exchanges, relationships and feelings (Rosnow, 1981); that is, everything that happens within the context. Although contextualism puts a premium on everyday change, it also accepts the possibility of rules and patterns in human nature, and argues for empirical measurement and validation of scientific tenets (Rosnow & Georgoudi, 1986).

B. Theoretical Framework

Based on the results of Study 1, the TPB (Ajzen, 1985) was abandoned in favour of its predecessor - the TRA (TRA: Fishbein & Ajzen, 1975). The theory of time perspective (Zimbardo & Boyd, 1999) was retained. Also, in Study 2, context and past behaviour were treated as possible useful additions to dominant socio-cognitive theories, such as the TRA.

C. Design

A mixed methodology was used; in particular, a *sequential explanatory design* (Creswell, 2003) was followed. This design is characterized by the gathering and analysis of quantitative data, followed by the gathering and analysis of qualitative data. Specifically, a questionnaire survey was followed by semi-structured, unstandardized interviews and document analyses. Priority was given to the quantitative data; meaning that quantitative information was emphasized and that the study was based on and guided by theory. Qualitative data assisted the interpretation of the quantitative results. Results from Study 1, revealed relationship status to be a strong influence on non-condom use, thus, qualitative data were particularly useful in exploring this result in depth. The two methodologies are integrated in the discussion chapter. The straightforward nature of the sequential explanatory design is its main advantage; it poses no implementation difficulties, as steps follow clear and separate stages. A disadvantage includes the length of time needed in data collection due to the two separate phases. The figure below pictures the steps involved in sequential explanatory design. "Quan" and "qual" stand for quantitative and qualitative, respectively. Capitalization shows that priority is given to the quantitative data.

Figure 6.1.

A typical sequential explanatory design.

QUAN → qual				
QUAN Data Collection →	QUAN Data Analysis →	qual Data Collection →	qual Data Analysis →	Interpretation of Entire Analysis
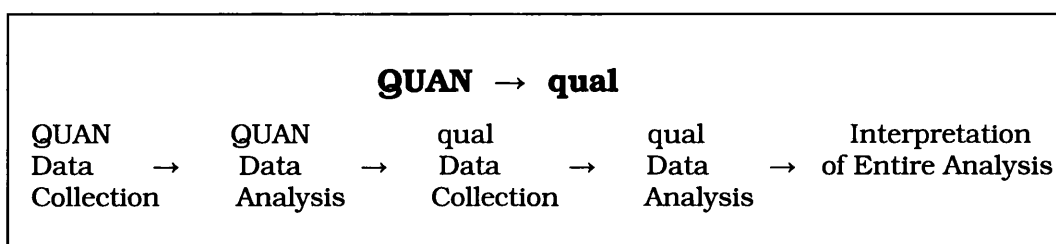
Adapted from Creswell, 2003.

D. Variables

The independent variables of Study 2 included attitudes, subjective norms, present time perspective (PTP – hedonistic versus fatalistic), future time perspective (FTP), culture (British versus Greek),

relationship status (exclusive versus non-exclusive versus no relationship), past behaviour (reported non-condom use), and intentions to engage in unprotected sex.

The dependent variables of this study were (a) past behaviour and behavioural intentions (past behaviour and intentions act both as dependent and independent variables, depending on the specific hypotheses and analyses); (b) duration to reaching exclusive RS; (c) meaning of condom use in exclusive relationships; (d) meaning of condom use in non-exclusive relationships; and (e) description of a person who habitually carries a condom.

E. Participants

For the questionnaire survey, the sample comprised 197 participants; 93 (47%) were British psychology undergraduates and 104 (53%) were Greek psychology and social anthropology undergraduates. Participants' age range was 18 to 43, with a mean of 21.2 and a standard deviation of 3.87. There were 142 females (72%) and 55 males (28%) in the sample. *See also section 7.2. for a detailed demographic breakdown.* British participants were attending the University of Bath and Greek participants were attending Panteion - the University of Social and Political Sciences, in Athens.

Seventeen participants took part in the interviews. Nine were British psychology undergraduates from Bath University, and eight were Greek university undergraduates, from various subjects (i.e., psychology, nursing, computer science, music, and economics). There were 8 males and 9 females in the sample, with an age range of 19-24, with a mean age of 21.7 and a standard deviation of 1.9. The inclusion criteria that were employed in the questionnaire survey were applied here too (e.g., participants had to be university undergraduates, as the undergraduate years signify a period of enhanced sexual activity and risk taking). The number of interviews conducted was determined on the basis of *theoretical saturation* (the point where no more new data emerge). Specifically, it was decided to conduct interviews up to the point where

participants provided no new or unexpected information. Theoretical saturation was estimated rather quickly, at about four interviews per cultural group.

Finally, sixteen written documents, offered voluntarily by the participants, were analyzed. The participants were all British psychology undergraduates from Bath University. Documents were written by fifteen female and one male participant. The age range was 18-21, with a mean age of 19.2 and a standard deviation of .86.

F. Measures

For the survey, participants received two questionnaires:

1. Time perspective was measured via the full version of the Zimbardo Time Perspective Inventory (ZTPI: Zimbardo & Boyd, 1999). Only present and future time perspective (TP) were included, as having a past (TP) has not been associated with risk-taking. A total of 37 items were assessed on a 5-point likert scale, according to "how characteristic" each statement was of the respondent. A score of '1' meant that a statement was "very characteristic" of the respondent and a score of '5' meant that a statement was "very uncharacteristic" of the respondent.

2. The second questionnaire contained direct measures of the theory of the TRA, in line with Ajzen and Fishbein's (1977) recommendations. All items were measured on a 5-point Likert scale, except for one item that measured the behaviour in question at the interval level.

Additional items measured: (a) relationship status during the last 6 months (being in an exclusive, casual, or no relationship); (b) meanings attributed to condom use in the contexts of exclusive and non-exclusive relationships; (c) meanings attributed to people who habitually carry condoms with them; (d) diagnosis of a STD; and (e) participants' perception regarding the amount of time needed to reach exclusivity in their relationships. The questionnaire included two definitions: (a) of 'unprotected sexual activity' as "any type of sexual activity (e.g., oral, vaginal, anal sex) without the use of a condom"; and (b) of an 'exclusive

relationship' as "an emotional (especially sexual) association restricted between two people".

The questionnaire closed with a free space which encouraged participants to make their personal comments regarding the study, or anything relevant to it. Participants' written responses to this final item were used to make a further qualitative analysis, that is, document analysis.

Most of the items of the questionnaire were already constructed in English, translated to Greek and back-translated by an English-Greek bilingual Health Psychologist. The measures can be viewed in Appendix B.

The internal consistency of the measures was assessed by checking the Cronbach's alpha coefficient. According to Pallant (2001), the Cronbach alpha coefficient of a scale should be around 0.7 and above, although smaller coefficients are acceptable for scales with fewer than 10 items. Results showed that all of the scales were reliable for the sample of this study. In particular, the future time perspective scale yielded a coefficient of .68, the present-hedonistic scale yielded a coefficient of .82, and the present-fatalistic scale gave a coefficient of .76. According to Zimbardo and Boyd (1999), the Zimbardo Time Perspective Inventory has good internal consistency, with a Cronbach alpha of .77 for the future scale, a Cronbach alpha of .79 for the hedonistic scale, and a Cronbach alpha of .74 for the fatalistic scale. The intention scale gave a coefficient of .95, the attitude scale gave a coefficient of .84, and the subjective norms scale provided an alpha of .68.

G. Operational Definitions.

Behaviour of interest

Frequency of unprotected sex was measured by two items. The first one was "in the course of the last six months how often did you have unprotected sex". This item was scored on a verbal scale, from which participants had to choose one of the following responses: "every time I

had sex", "most of the times I had sex", "about half of the times I had sex", "less than half of the times I had sex", and "never". The second item was "in the course of the last six months I had unprotected sex", and was scored on a 5-point likert scale, ranging from "always did" (1) to "never did" (5).

Intentions

Behavioural intentions were captured by three items: "I intend to have unprotected sex in the following 6 months", "I plan to have unprotected sex in the following 6 months", and "I would like to have unprotected sex in the following 6 months". Responses were structured on 5-point likert scales ranging from definitely true (scored as 1) to definitely false (scored as 5) for the first two items, and ranging from "strongly agree" (1) "to strongly disagree" (5) for the third item.

Attitudes

Participants' evaluation of having unprotected sex was obtained by 5-point likert scaling of bipolar adjectives (i.e.: enjoyable-unenjoyable, pleasant-unpleasant, good-bad, beneficial-harmful, and wise-foolish).

Subjective norms

Two items were used to measure subjective norm. The first item was: "the people in my life whose opinions I value would "strongly approve" (1) – "strongly disapprove" (5) of my having unprotected sex in the next 6 months". This item had an injunctive quality, consistent with the concept of subjective norm. To deal with low variability issues often observed with injunctive items, a second item was added to measure descriptive subjective norms, that is, whether significant others themselves perform the behaviour in question: "most people who are important to me have unprotected sex". This item was scored in terms of a 5-point likert scale, ranging from "definitely true" (1) to "definitely false" (5).

Present time perspective (PTP)

Participants' PTP was assessed by 24 items, from which nine captured a present-fatalistic orientation and 15 captured a present-hedonistic orientation. Examples of present fatalistic items include "often luck pays off better than hard work" and "my decisions are mostly influenced by people and things around me". Examples of present-hedonistic items are: "it is important to put excitement in my life" and "I often follow my heart more than my head".

Future time perspective (FTP)

Respondents' FTP was established by 13 items, such as, "before making a decision I weigh the costs against the benefits" and "I believe that a person's day should be planned ahead each morning". All time perspective items were scored on 5-point likert scales, ranging from "very characteristic" (1) to "very uncharacteristic" (5).

Relationship status

Relationship status was obtained by the item "for the last six months, I've been in". Participants had to choose from three options "an exclusive relationship", "non-exclusive/casual relationship(s)", and "no relationship".

Perceived amount of time needed to reaching exclusive RS

This variable was measured by the question: "in general, how long do you have to be in a relationship before considering it as 'exclusive'"? Participants had to choose from "days", "weeks", "months", and "years".

Meanings attributed to condom use in the contexts of exclusive and non-exclusive relationships

This variable was assessed by the questions "when in an exclusive relationship, using condoms means", and "when in a non-exclusive relationship using condoms means". Participants were free to

choose more than one of the following options: "health/safety", "trust", "mistrust", "love/passion", and "other". For the "other" option participants were provided with a space to enable further elaboration.

Description of a person who habitually carries a condom

This variable was captured by the item "a person who always carries a condom can be described as". Participants could choose one or more answer from the following: "careful", "thoughtful", "prone to risks", "prone to one-night stands", "healthy", and "other". Here too, the "other" option allowed for participants' further written feedback.

STD diagnosis

It was asked whether or not participants had ever been diagnosed with a STD. This was an optional question.

Demographic factors

Age in numbers and gender (1=male, 2=female) were obtained.

H. Procedure

i. British questionnaire survey and interviews.

Once the study was designed, a second ethical approval was sought and granted by the ethics committee of the Psychology Department of Bath University.

Collection of the British data came first, in March 2005. A class of psychology first year undergraduates, at Bath University was approached. First, the researcher introduced herself and the nature of the study. Then informed consent was sought; participants were handed out informed consent sheets and, once those sheets were signed and returned, questionnaires were administered. Administration of the questionnaire in the lecture theatre allowed direct supervision of respondents. Participants were assured (verbally and in writing) that their responses would be treated in strict confidence; previous research has shown that assurances of confidentiality encourage valid answers in

risk taking research (Murray & Perry, 1987). Once questionnaires were returned, participants were given a debriefing sheet, which provided specific information about the study (i.e., the purpose of the study and the theoretical models that were employed), as well as the contact details of the researcher. These materials are in Appendix B. The whole process of data collection lasted 25 minutes. Of the 100 questionnaires administered to this group, 96 were returned, and 93 were eventually used.

British interviews were carried out throughout April 2005. Participants were approached during the questionnaire administration and interviews were scheduled. Interviews took place at the researcher's office at Bath University and each lasted 10 minutes, approximately. Interviews were tape recorded and transcribed on the same day of their completion. Participants were assured, orally and in writing, of the confidentiality of the interviews. Nine semi-structured, unstandardized interviews were carried through with British participants. To begin with, participants were given a brief description of the nature of the study and handed an informed consent sheet. As soon as consent was given the interview began. Although an interview protocol was followed, the questions were open-ended (i.e., semi-structured and unstandardized interviews) and participants were encouraged to elaborate on their answers. The semi-structured and unstandardized variety was chosen as it best suited the research objectives and the type of information sought. This was not an exploratory study; extensive literature review was initially done, research questions were established, and topics - or categories - were extracted from existing research. It was decided that if a new or contradictory topic emerged, it would not be discarded. The interview was controlled and directed by the interviewer because specific research questions were set out from the beginning of the study. Examples of interview questions were: "what types of contraception do you use?", "how would you describe a person who always has a condom in their pocket or purse, when they go to a bar, a club, etc?" At the end of the interview, participants were given a

debriefing sheet. All interview materials were stored in a locked office.

The protocol, as well as relevant interview materials, are placed in Appendix B. Interviews aimed to yield data which would support the topics.

ii. Greek questionnaire survey and interviews.

An identical procedure was followed for the Greek data collection, in May 2005. Questionnaire data collection employed two first year Psychology classes and one first year Social Anthropology class, at Panteion – University of Social and Political Sciences, in Athens. Of the 105 questionnaires administered, all were returned, and 104 were eventually used.

Eight interviews were carried out in Athens, Greece, employing Greek participants. Six of these Greek interviews took place at participants' homes and two were telephone interviews. The interviews were tape recorded and transcribed immediately after their completion. Telephone interviews were conducted and recorded via mobile phone. The procedure and interview protocol were identical to the ones followed in Bath. Interview materials can be observed in Appendix B.

iii. Documents.

As mentioned in the *Measures* section, the questionnaire included a final and optional open-ended question. A space was provided (about half a page) for participants to write their views regarding the study itself, their experience as participants in the study, or any additional comments they had. Eighteen documents (17 British and one Greek) were received and analyzed. These hand-written documents provided intriguing ideas which were considered worthy of a separate analysis. Document analysis took place in November 2005.

I. Data Analyses

i. Questionnaires.

As in study 1, statistical analyses were conducted with the Statistical Package for the Social Sciences (SPSS for Windows). First,

descriptive statistics were obtained to establish the nature of the variables; means and standard deviations were estimated for continuous variables and percentages for categorical variables, t-tests provided gender differences and chi-square tests expolred cultural differences amongst the variables. Then, inferential statistics were conducted; Pearson's correlation analysis assessed zero-order relations between variables and multiple regression analyses were computed to identify key predictor variables, in accordance with the hypotheses. Finally, moderator effects were investigated for several variables, in accordance with the hypotheses; moderation was assessed via hierarchical regression tests and ANOVA tests.

ii. Interviews.

Content analysis, a technique that assumes that people have relatively stable beliefs about the causes of their behaviours and that these beliefs can be uncovered from an analysis of their spoken words (Smith, 2003), was used to analyze the interview data. Content analysis is a documentary method that enables both qualitative and quantitative investigation of the content of all forms of verbal, visual, and written communications (Sarantakos, 1997). As a qualitative technique, content analysis can assess subjective information, such as personal motives, values, and attitudes; as a quantitative technique, it is usually employed to determine the frequency of an event or report (Ghilglione & Blanchet, 1991).

Content analysis was judged to be the most suitable technique for this particular study, for the following reasons. First, content analysis encourages extensive literature review, as well as the formation of specific expectations prior to data collection (a 'top-down' approach). The emphasis on preliminary search is what distinguishes content analysis from other qualitative techniques (e.g., grounded theory, narrative research, ethnography, etc), all of which require that the investigator is as 'naïve' as possible at the beginning of the research (Silverman, 2000). Moreover, content analysis allows for the

development of hypotheses, research questions and other expectations, prior to data collection. This too is considered quite restrictive by other qualitative techniques, which require that the investigator begins research without biases and preconceptions (Neuman, 1994).

In analyzing the interviews from this study, content analysis began with coding participants' open-ended answers into closed categories, or topics. These topics were extracted from pre-existing data, a 'top-down' approach, which required prior familiarity with the relevant literature in order to derive categories.

The second stage of content analysis was to illustrate each topic with representative quotations from the interview data. Representative quotations consist of participants' verbal (or written) reports which highlight and exemplify the topics. As is done throughout the thesis, presentation of quotations followed APA (2001) guidelines; quotations with 40 or more words are presented in a freestanding block, without quotation marks. Quotations with less than 40 words are not blocked and are contained in quotation marks.

Quantification of the qualitative data was accomplished by counting the frequency of responses within each topic, and then adding up the frequency of responses for each topic. The higher the frequency of a response, the more important it was assumed to be (Sarantakos, 1997). The final results included the creation of basic and coherent themes (derived from the description of topics) and the assessment of the relative importance of those themes. Themes were also accompanied with representative quotations.

iii. Documents.

Documents were also content analyzed but categories were not extracted from pre-existing data (a 'bottom-up' approach). Categories were extracted and themes were developed from participants' written responses. In this case there were no a-priori research questions.

Chapter 7
Results: Study 2

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7.1. Preliminary Data Analysis and Manipulation

Similar to Study 1, scores on certain quantitative items were reversed in order to ensure that high scores indicated high levels of the scale. The scores of behavioural frequency, hedonistic and fatalistic present time perspective, future time perspective, and behavioural intentions were reversed. For example, behavioural frequency was measured by the item "in the course of the last 6 months I had unprotected sex", via a 5-point Likert scale (1 = "Always did" to 5 = "Never did"). After reversal, a score of 5 meant that the participant always had unprotected sex in the course of the last 6 months. As in the first study, the scales were administered to the participants in the form recommended by their authors and afterwards scores were reversed for statistical and conceptual clarity.

7.2. Results of Quantitative Analyses

A. Descriptive Statistics

i. Categorical Variables.

Gender: 142 females and 55 males gave a total of 197 participants.

Culture: there were 93 British and 104 Greek participants.

Table 7.1 provides the population breakdown according to culture and gender.

Table 7.1

Population Breakdown: Gender X Culture

		CULTURE		
		British participants	Greek participants	Total
female	Count	68	74	142
	Expected Count	67.0	75.0	142.0
	% within gender	47.9%	52.1%	100.0%
	% within culture	73.1%	71.2%	72.1%
	% of Total	34.5%	37.6%	72.1%
male	Count	25	30	55
	Expected Count	26.0	29.0	55.0
	% within gender	45.5%	54.5%	100.0%
	% within culture	26.9%	28.8%	27.9%
	% of Total	12.7%	15.2%	27.9%
Total	Count	93	104	197
	Expected Count	93.0	104.0	197.0
	% within gender	47.2%	52.8%	100.0%
	% within culture	100.0%	100.0%	100.0%
	% of Total	47.2%	52.8%	100.0%

Relationship dichotomy: from the total sample, 116 (59%) of the respondents were in an exclusive relationship and 82 (42%) were not.

Relationship status: from the total sample, 116 (59%) participants were in exclusive relationships, 43 (22%) participants were in non-exclusive/casual relationships, and 38 (19%) were single.

Duration to reaching 'exclusive relationship status': 23 (12%) participants reported "days", 54 (27%) reported "weeks", 95 (48%) reported "months", and 25 (13%) reported "years".

Meaning of condom use in exclusive relationships: participants could attribute condom use to the meanings of health/safety, trust, mistrust, distance, love/passion, and other. Additionally, a space was

provided so that participants could elaborate on their answers. For statistical analyses to be conducted, the above meanings were grouped into 3 types of connotations. Meanings of health/safety, trust, and love/passion were grouped into "positive connotations" given to condom use in an exclusive relationship. By contrast, meanings of mistrust and distance were grouped into "negative connotations". A category 'both' was created for participants who gave both positive and negative connotations. The "other" option was retained as a fourth category.

Results showed that 152 (77%) participants gave positive connotations to condom use in exclusive relationships, 30 (15%) participants gave negative connotations, 6 (3%) participants gave both positive and negative connotations, and 9 (4.6%) chose "other".

Meaning of condom-use in non-exclusive relationships: One hundred and forty one (71%) participants gave positive connotations to condom use in non-exclusive relationships, 8 (4%) participants gave negative connotations, 47 (24%) gave both positive and negative connotations, and 1 (0.5%) participant chose "other".

Description of a person who always carries a condom: participants could describe a person who always carries a condom as careful, thoughtful, prone to risks, prone to one-night stands, healthy, and other. As in the previous two cases, respondents could give their own comments and additional descriptions in a space provided. Here too, meanings were grouped into connotations: positive, negative, mixed, and other. One hundred and twenty four (63%) participants gave a positive connotation to people who habitually carry condoms, 21 (10%) gave a negative connotation, 50 (25%) gave both positive and negative connotations, and 2 (1%) chose "other".

Behaviour dichotomy: 111 (56%) of the participants had unprotected sex during the last 6 months and 86 (44%) did not have.

Behaviour frequency: 39 (20%) of the participants had unprotected sex "every time", 18 (9%) had unprotected sex "most of the times", 15 (8%) had unprotected sex "half of the times", 39 (20%)

had unprotected sex "less than half of the times", and 86 (44%) "never had".

ii. Continuous Variables.

Means and standard deviations of continuous variables are provided in table 7.2.

Table 7.2

Participant Mean Scores of Continuous Variables

Variable	*M*	*SD*	*N*
Past non-condom use	2.30	1.5	197
Intended non-condom use	2.45	1.33	197
FTP	3.32	0.46	197
Hedonistic PTP	3.50	0.52	197
Fatalistic PTP	2.80	0.60	197
Attitudes	3.10	0.97	197
Subjective Norms	3.54	0.92	197
Age	21.2	3.87	197

iii. Gender Differences.

Similar to the first study, gender differences were not part of the main hypotheses. However, a number of T-tests were conducted in order to achieve a better understanding of the sample. The following results are treated, therefore, as descriptive.

1. There were no gender differences for reported past or intended non-condom use.

2. There was a statistically significant difference in TP scores for men and women: Female students were more future-oriented (M = 3.4, SD = 0.45) than male students [M = 3.2, SD = 0.45; t (195) = 2.76, p = 0.006]. Male students were more present-oriented (hedonistic) (M = 3.64, SD = 0.46) than female students [M=3.4, SD=0.46; t (195) = -3.06, p = 0.002]. Similarly, male students were more present-oriented (fatalistic) (M =

2.97, *SD* = 0.7) as compared to female students [*M* = 2.7, *SD* = 0.5; *t* (195) = -2.44, *p* = 0.01].

3. Female participants held more negative attitudes towards unprotected sex (*M* = 3.3, *SD* = 0.9) than male participants [*M* = 2.7, *SD* = 0.85; *t* (195) = 4.1, *p* = 0.000].

4. There was a difference between gender and relationship status. From the female sample, 64% were in exclusive relationships, 18% were in casual relationships, and 18% were single. From the male sample, 45.5% were in exclusive relationships, 33% were in casual relationships, and 21% were single.

5. No differences were found in the connotations for condom use in exclusive and non-exclusive relationships for men and women. Overall, positive connotations were given by both men and women to condom use regardless of relationship status.

6. There was a relationship between gender and the connotations given to people who habitually carry condoms. Sixty six percent (66%) of the women describe in a positive way those who carry condoms with them, whilst 54.5% of the men do so.

7. Men and women estimated in a comparable way how long it takes them to consider a relationship as exclusive. The dominant response for both sexes was that it takes months to regard a relationship as exclusive.

iv. Cultural Differences.

A Chi-Square test was conducted for variables: culture (British, Greek), relationship status (in exclusive, casual, no relationship), and reported unprotected sex (has had sex without condoms in the last 6 months or not). Specifically, this test explored: (a) the proportion of Greek and British respondents across the three relationship types; (b) the proportion of Greek and British respondents that had unprotected sex (or not) during the last 6 months. Thus, cultural differences in relationship types and unprotected sexual activity were observed. Results are presented in tables 7.3a and 7.3b, and at figure 7.1.

Table 7.3a

Proportion of Greek and British Participants Across Relationship Styles

| | | RELATIONSHIP STATUS | | | |
		exclusive	casual	no relationship	Total
British participants	Count	53	22	18	93
	Expected Count	54.8	20.3	17.9	93.0
	% within CULTURE	57.0%	23.7%	19.4%	100.0%
	% within RELATIONSHIP STATUS	45.7%	51.2%	47.4%	47.2%
	% of Total	26.9%	11.2%	9.1%	47.2%
Greek participants	Count	63	21	20	104
	Expected Count	61.2	22.7	20.1	104.0
	% within CULTURE	60.6%	20.2%	19.2%	100.0%
	% within RELATIONSHIP STATUS	54.3%	48.8%	52.6%	52.8%
	% of Total	32.0%	10.7%	10.2%	52.8%
Total	Count	116	43	38	197
	Expected Count	116.0	43.0	38.0	197.0
	% within CULTURE	58.9%	21.8%	19.3%	100.0%
	% within RELATIONSHIP STATUS	100.0%	100.0%	100.0%	100.0%
	% of Total	58.9%	21.8%	19.3%	100.0%

Table 7.3b

Proportion of Past Unprotected Sex Across the two Cultures

		BEHAVIOUR DICHOTOMY (ever had Unprotected Sex in last 6 months)		Total
		has never had	has had	
British participants	Count	29	64	93
	Expected Count	40.6	52.4	93.0
	% within CULTURE	31.2%	68.8%	100.0%
	% within BEHAVIOUR DICHOTOMY	33.7%	57.7%	47.2%
	% of Total	14.7%	32.5%	47.2%
Greek participants	Count	57	47	104
	Expected Count	45.4	58.6	104.0
	% within CULTURE	54.8%	45.2%	100.0%
	% within BEHAVIOUR DICHOTOMY	66.3%	42.3%	52.8%
	% of Total	28.9%	23.9%	52.8%
Total	Count	86	111	197
	Expected Count	86.0	111.0	197.0
	% within CULTURE	43.7%	56.3%	100.0%
	% within BEHAVIOUR DICHOTOMY	100.0%	100.0%	100.0%
	% of Total	43.7%	56.3%	100.0%

The Pearson Chi-Square coefficient was 11.14, $p < .0001$.
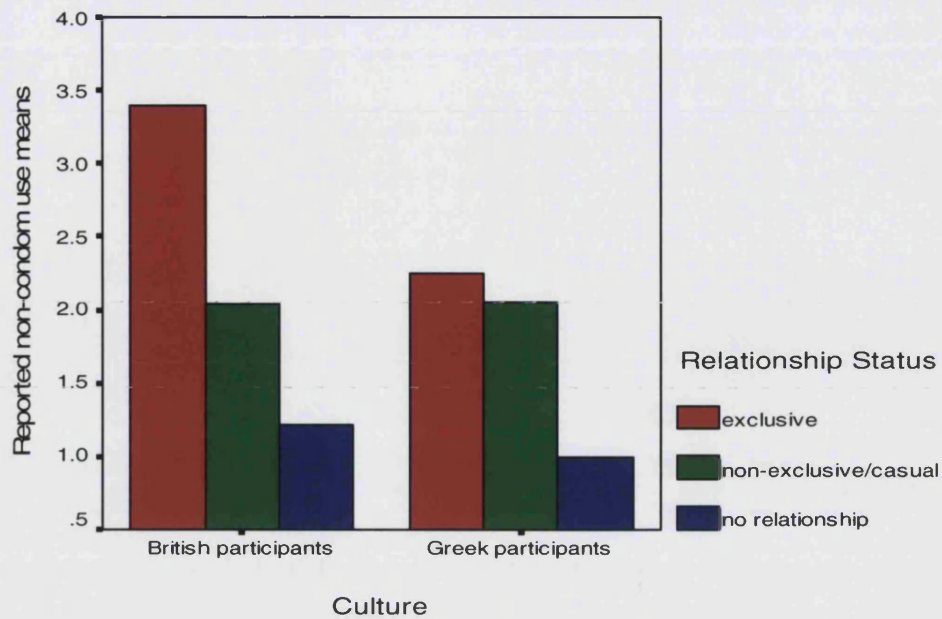
Figure 7.1. Reported non-condom use as a function of Culture and Relationship Status.

British sample: from the 53 students (57%) in exclusive relationships, 45 (70%) had unprotected sex and 8 (28%) did not. From the 22 (24%) in casual relationships, 15 (23%) had unprotected sex, and 7 (24%) did not. From the 18 participants in no relationship, 4 (6%) had unprotected sex, and 14 (48%) did not. As a total, 32.5% of British participants reported having unprotected sex during the last six months, and 15% reported not having. These results were statistically significant at the $p = .0001$ level.

Greek sample: from the 63 students (61%) in exclusive relationships, 36 (77%) had engaged in unprotected sex and 27 (47%) did not. From the 21 (20%) in casual relationships 11 (23%) had unprotected sex, and 10 (17%) did not. The remaining 20 students (19%) were in no relationship and all of them reported using condoms. As a total, 24% of Greek participants reported having unprotected sex in the last six months, and 29% reported not having. These results were significant at the $p = .0001$ level.

B. Inferential Statistics

i. Exploring Associations Among Variables

Preliminary analyses were conducted to ensure no violation of assumptions of normality, linearity, and homoscedasticity, in relation to the two dependent variables (intended and past non-condom use).

Results for intended non-condom use.

It was hypothesized that attitudes, subjective norms, TP, culture, and relationship status would be related to participants' intentions to engage in unprotected sexual activity. Relationships between these variables were estimated via Pearson's product-moment correlation coefficient.

There was a significant negative relationship between attitudes and intended non-condom use [r = -.59, n = 197, p < 0.01], indicating that negative attitudes towards unprotected sex are correlated with weak intentions to engage in unprotected sex. The variables' shared variance can be estimated by the coefficient of determination (the r value multiplied by itself). In this case, the coefficient of determination was 0.35, suggesting that attitudes helped explain 35% of behavioural intentions scores. Relationship status was also significantly associated with intended non-condom use [r = *.32*, n = 197, p < 0.01]. The coefficient of determination was .10, suggesting that relationship status helped explain 10% of the variance of intentions to engage in reported non-condom use.

Subjective norms, TP, and culture were not significantly associated with behavioural intentions.

Results for reported past non-condom use.

It was hypothesized that intended non-condom use, attitudes, subjective norms, relationship status, TP, and culture would be associated with past non-condom use.

Results revealed a significant relationship between past behaviour and intended behaviour [$r = .63$, $n = 197$, $p < 0.01$], indicating that participants who had engaged in unprotected sex in the past, intended to do so in the future. The coefficient of *determination* was .40, showing that past behaviour helped explained 40% of the variance of behavioural intention scores. Attitudes were also significantly associated with past non-condom use [$r = - .51$, $n = 197$, $p < 0.01$]. The coefficient of determination of .26, indicating that attitudes helped explained 26% of past unprotected sex. Relationship dichotomy (in a relationship or not) and past non-condom use were also significantly associated [$r = .37$, $n = 197$, $p < 0.01$]. The coefficient of determination was .14, suggesting that relationship dichotomy helped explain 14% of the variance of past non-condom use scores. Similarly, culture was significantly related with past non-condom use [$r = -.22$, $n = 197$, $p < 0.01$]. The coefficient of determination was .05, indicating that culture helped explain 5% the variance of reported non-condom use. Specifically, British participants reported more non-condom use ($M = 2.7$, $SD = 1.64$) than Greek participants ($M = 2.0$, $SD = 1.4$).

No significant relationships were found between subjective norms, TP, and past non-condom use.

ii. Exploring Differences Between Groups.

Differences across relationship styles.

Differences were expected in reported past and intended non-condom use for participants in exclusive, casual, and in no relationships.

In relation to *past* non-condom use, participants were divided in three groups according to their relationship style (group 1: in exclusive relationships; group 2: in casual relationships; group 3: no relationship). The ANOVA revealed a statistically significant difference in reported non-condom use scores for the three relationship styles [$F (2, 194) = 20.73$, $p < .0001$]. The effect size, calculated by Eta squared, was .17. According

to Cohen (1988), this is a large effect, and it explains 17% of the variance of reported non-condom use scores. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for participants in exclusive relationships (M = 2.8, SD = 1.64) was significantly different from participants in no relationship (M = 1.11, SD = 0.65), and from participants in casual relationships (M = 2.05, SD = 1.25). Also, the mean score for participants in casual relationships (M = 2.05, SD = 2.05) differed significantly from participants in no relationship (M = 1.11, SD = 0.65).

Similar results were found when *intended* non-condom use was the dependent variable. There was a statistically significant difference in intended non-condom use scores for the three relationship styles [F (2, 194) = 13.97, $p <$ .0001]. The effect size, calculated by Eta squared, was .125. According to Cohen (1988), this is a medium-large effect, and it explains 12.5% of the variance of intended non-condom use scores. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for participants in exclusive relationships (M = 2.81, SD = 1.43) was significantly different from participants in no relationship (M = 1.6, SD = 0.81), and from participants in casual relationships (M = 2.24, SD = 1.02). Also, the mean score for participants in casual relationships (M = 2.24, SD = 1.02) differed significantly from participants in no relationship (M = 1.6, SD = 0.81).

The 1-way ANOVA analysis above assessed the differential effects of RS on intended unprotected sex; the investigation was taken a logical step further to consider the impact of past non-condom use on this finding. Thus, the individual and joint effects of past non-condom (had unprotected sex versus did not have) use and RS on intended non-condom use were investigated, with the use of a 2-way ANOVA test. Participants were divided into three groups according to their RS (Group 1: in exclusive relationship; Group 2: in non-exclusive/casual

relationship; Group 3: in no relationship). Results revealed a statistically significant main effect for RS [$F(2, 191) = 4.83$, $p = .009$], a significant main effect for past non-condom use [$F(1, 191) = 14.33$, $p = .000$], and a significant interaction effect [$F(2, 191) = 4.15$, $p = .01$]. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for participants in exclusive relationships ($M = 2.81$, $SD = 1.43$) was significantly different from the non-exclusive/casual relationship group ($M = 2.24$, $SD = 1.02$) and from the no-relationship group ($M = 1.60$, $SD = 0.81$). The line graph below represents the impact of RS and past non-condom use on intended non-condom use.
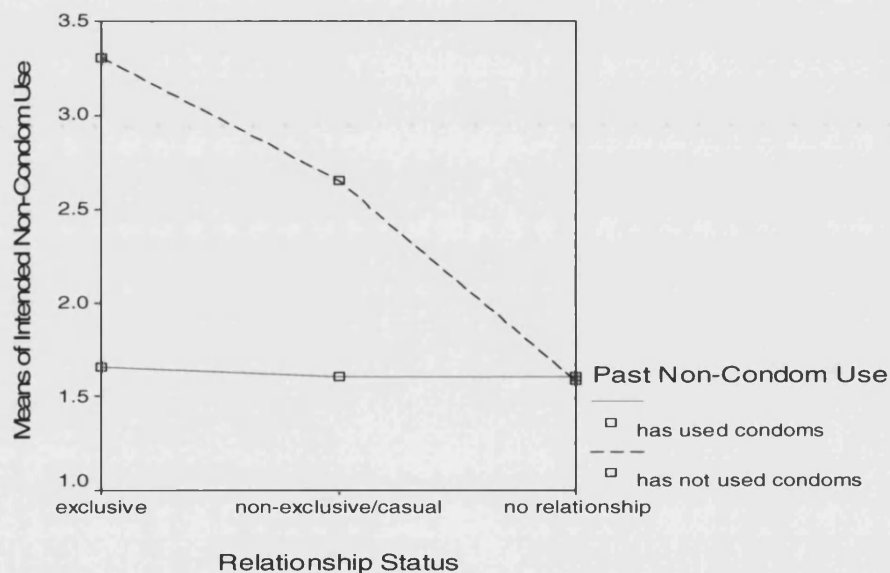
Figure 7.2. Line graph of intended non-condom use as a function of RS and past non-condom use.

Figure 7.2. pictures the intriguing relationship between RS and past non-condom use. That is, participants who had used condoms in the past intended to use condoms in the future, irrespective of their RS. Yet, participants who had not used condoms in the past intended not to use condoms in the future, especially if they were in an exclusive relationship.

As a whole, the three ANOVA tests point to the following conclusions: (a) 1-way ANOVA results showed that different

relationship styles differentially and significantly affect past and intended non-condom use; (b) 2-way ANOVA results indicated that when the impact of RS on intended non-condom use is examined in conjunction with past behaviour, the effects of RS become less pronounced. Although RS and past non-condom use interacted, past non-condom use influenced intended non-condom use to the greatest extent. This could also be inferred by inspecting the effect sizes (Eta Squared) from the ANOVA table: the effect size for RS was small (0.5), for the moderation was small (0.4), and for past non-condom use was medium (0.7).

Finally, it was explored whether or not participants across the three relationship styles gave differential meanings to non-condom use. Chi-Square Tests were conducted to investigate this research question. No significant differences were found. By and large, participants gave positive connotations to condom use in all types of relationships.

Cultural Differences.

It was investigated if there were cultural differences in the attributions given to the meanings of condom use in exclusive and non-exclusive relationships. Chi-Square tests tested this research question. No cultural differences were found in the connotations given to condom use in exclusive relationships. Overall, a positive connotation was given, whilst Greek students give slightly more positive connotations (80%) than British students (75%). However, there was a statistically significant relationship between culture and the types of connotations attributed to condom use in non-exclusive relationships. The Pearson Chi-Square value was 18.17, $p < .0001$. British participants (85%) viewed condom use in non-exclusive relationships more positively, as compared to their Greek counterparts (60%).

Possible cultural differences in the evaluation of people who habitually carry condoms with them were explored. A Chi-Square test

tested this research question. No statistically significant relationship was found between such evaluations and culture. In general, positive connotations were given to people who habitually carry condoms (63% of the total sample). Ten percent of participants gave negative evaluations and 25% of participants gave mixed evaluations to people who are in the habit of carrying condoms with them.

Finally, whether there were cultural differences regarding the time participants needed to consider their relationship as exclusive was explored. A Chi-Square test revealed statistically significant cultural differences (the Pearson Chi-Square value was 47.92, p < .0001). From a total of 93 British participants, 16 (17.2%) stated "days", 43 (46.2%) stated "weeks", 31 (33.3%) stated "months" and three (3.2%) stated "years", up to reaching exclusivity status. From a total of 104 Greek participants, 7 (6.7%) stated "days", 11 (10.6%) stated "weeks", 64 (61.5%) stated "months", and 22 (21.2%) stated "years".

iii. Predictors of Behavioural Intentions.

In order to identify important predictors of intentions to engage in non-condom use a number of multiple regression analyses were performed. Extensive preliminary analyses were carried out and no assumption violations were found. Specifically, adequate sample size for generalizability and power considerations was assessed. Tabachnick and Fidell (1996), provide a formula used to calculate adequate sample size, based on the number of variables employed. The formula is N > 50 + 8m, where m is the number of independent variables. The maximum number of independent variables used in multiple regression analyses was 8 (some analyses employed fewer than 8 independent variables). Based on the formula, 114 participants were needed; this study had 197 respondents.

Multicollinearity was assessed via the correlation coefficients and via the tolerance values (multiple correlations among independent

variables). The tolerance values for the independent variables should not be near 0. In this case, the lowest value was .57; thus it can be concluded that multicollinearity was not violated. All of the scales measured conceptually and theoretically independent variables; thus singularity was assured. By inspecting the residuals scatterplots of the dependent variables and the normal probability plot of the standardized residuals, it can be inferred that the assumptions of normality, linearity and homoscedasticity were not violated. In particular, in the normal probability plot points were lined in a reasonably straight diagonal line, from bottom left to top right. In the scatterplot, the residuals were roughly rectangularly distributed. Finally, the presence of outliers was checked by conducting an analysis for mahalanobis distances. None of the five highest values exceeded the critical Chi-Square value of 24.32; thus, there were no extreme outliers in the data set.

1. It was hypothesized that past behaviour would have a direct effect on intentions to have unprotected sex, over and above the influence of the TRA. This hypothesis constituted a test of the sufficiency of the TRA model to predict behavioural intentions, as well as the need to incorporate past behaviour in the TRA model.

The hypothesis was tested, and confirmed, by a hierarchical regression analysis. TRA variables (attitudes and subjective norms) were entered at Step 1 and past behaviour was entered at Step 2. In this way it was possible to assess the predictive ability of the TRA and the additional predictive ability of past behaviour. The results showed that the model, as a whole, explained 50% of the variance (R Squared = .50). The two TRA variables were able to explain 35% of the variance of non-condom use (R Square Change = .35). The addition of past behaviour produced a statistically significant increment (15%) in the amount of variance explained (R Square Change = .15). The ANOVA table indicated that the model as a whole was significant [F (3, 193) = 64.99, $p <$ .0001]. The individual contribution of each variable can be

inspected from Table 7.1, which provides raw and standardized coefficients. Past behaviour made the strongest statistically unique contribution (beta = 0.45) to explaining intended non-condom use, over and above the variables of the TPB.

Table 7.1

Summary of Hierarchical Regression Analysis for Variables Predicting Participants' Intentions to Engage in Unprotected Sex (N = 197)

Variable	B	SE B	β
Step 1			
Attitudes	-0.81	0.08	-0.59***
Subjective norms	-0.02	0.09	-0.01
Step 2			
Attitudes	-0.48	0.08	-0.35***
Subjective norms	-0.08	0.08	-0.06
Past behaviour	-0.39	0.05	0.45***

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

Note: R Squared Change = .35, for Step 1; ΔR Squared Change = .15, for Step 2 (p < .0001).

2. Time Perspective (TP) was expected to enhance the predictive ability of the TRA.

This hypothesis was tested with a hierarchical multiple regression analysis. TRA variables (attitudes and subjective norms) were entered at Step 1 and TP constructs (present-hedonistic, present-fatalistic, and future orientations) were entered at Step 2. In this way it was possible to assess the predictive ability of the TPB and the additional predictive ability of TP. The results showed that the model, as a whole, explained 37% of the variance (R Squared = .37). The TRA variables were able to explain 35% of the variance of non-condom use (R Square Change = .62). The addition of TP constructs failed to

produce a significant increment (R *Square Change* = .02, ns). The ANOVA table indicated that the model as a whole was *significant* [F (5, 191) = 22.68, $p < .0001$]. The individual contribution of each variable can be inspected from Table 7.2a, which provides raw and standardized coefficients. Inspection of beta coefficients revealed that present-fatalistic TP gave a significant unique contribution, and thus, an additional regression analysis was conducted; results are displayed in table 7.2b.

Table 7.2a

Summary of Hierarchical Regression Analysis for Variables Predicting Participants' Intentions to Engage in Unprotected Sex (N = 197)

Variable	B	SE B	β
Step 1			
Attitudes	-0.81	0.08	-0.59***
Subjective norms	-0.02	0.09	-0.01
Step 2			
Attitudes	-0.81	0.08	-0.59***
Subjective norms	-0.09	0.08	0.07
Hedonistic PTP	0.16	0.19	0.06
Fatalistic PTP	-0.38	0.15	-0.17**
Future TP	-0.10	0.19	-0.03

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

Note: R Squared Change = .35, for Step 1 ($p = .0001$);

ΔR *Squared Change* = .02, for Step 2, *ns.*

Table 7.2b

Summary of Hierarchical Regression Analysis for Variables Predicting Participants' Intentions to Engage in Unprotected Sex (N = 197)

Variable	B	SE B	β
Step 1			
Attitudes	-0.81	0.08	0.59***
Subjective norms	-0.02	0.09	-0.01
Step 2			
Attitudes	-0.82	0.08	-0.60***
Subjective norms	-0.03	0.08	-0.02
Fatalistic PTP	-0.28	0.13	-0.12*

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

Note: R Squared Change = .35 for Step 1 (p = .0001);

ΔR *Squared Change = .02 for Step 2, (p < .05)*

Fatalistic PTP enhanced the predictive ability of the TRA by a significant 2%.

3. Culture was expected to add to the predictive ability of the TRA. In a hierarchical multiple regression test, culture was entered at Step 1, followed by TRA variables at Step 2. Results revealed that culture did not add to the predictive ability of the TRA.

4. Relationship status dichotomy (RS – in an exclusive relationship or not) was expected to enhance the predictive ability of the TRA.

In a hierarchical multiple regression test, TRA variables were entered at Step 1, followed by RS at Step 2. Results revealed that the

model explained 40% of the variance (R Squared = .40). The two TRA variables were able to explain 35% of the variance of non-condom use (R Square Change = .35). The addition of RS produced a significant increment (5%) in the amount of variance explained (R Square Change = .05). The ANOVA table indicated that the model as a whole was significant [F (3, 193) = 43.80, p < .0001]. The individual contribution of each variable can be inspected from Table 7.3, which provides raw and standardized coefficients.

Table 7.3

Summary of Hierarchical Regression Analysis for Variables Predicting Participants' Intentions to Engage in Unprotected Sex (N = 197)

Variable	B	$SE\ B$	β
Step 1			
Attitudes	-0.81	0.08	-0.59***
Subjective norms	-0.02	0.09	-0.01
Step 2			
Attitudes	-0.75	0.08	-0.35***
Subjective norms	-0.05	0.08	-0.03
RS	0.63	0.15	0.23***

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

Note: R Squared Change = .35, for Step 1 (p < .0001);

ΔR Squared Change = .05, for Step 2 (p < .0001).

5. Further multiple regression analyses (standard) were employed to assess: (a) how much variance of intended non-condom use could be explained by each of the independent variables; (b) how much variance would be explained by each of the predictors, whilst splitting the file into dating and single participants. This second analysis would assess if the predictive ability of the independent variables changes as a function of relationship context.

In the first regression analysis, results revealed that the model explained 57% of the variance in intended non-condom use (R Squared = .57). In evaluating the unique contribution of each of the predictors, past behaviour made the strongest unique contribution to explaining intended non-condom use ($beta$ = 0.47), followed by attitudes ($beta$ = -0.39), and present-fatalistic TP ($beta$ = -0.23). Also, future TP provided a small ($beta$ = -.11) but significant contribution to the equation. The ANOVA table indicated that the model as a whole was statistically significant [F (8, 188,) = 30.77, $p < .0001$]. Table 7.4a provides the beta coefficients and their level of significance.

In the second regression analysis, split file resulted into two Models. Model 1 referred to participants not in an exclusive relationship, and Model 2 referred to participants who were in an exclusive relationship.

Model 1 explained 47% of the variance in intended non-condom use (R Squared = .47). In evaluating the unique contribution of each of the predictors, attitudes made the strongest unique contribution to explaining intended non-condom use (beta = -.47), followed by past behaviour (beta = .38), and present fatalistic TP (beta = -.26). The ANOVA table indicated that the model as a whole was statistically significant [F (7, 73,) = 9.40, $p < .0001$]. Table 7.4b provides the beta coefficients and their level of significance.

Model 2 explained 55% of the variance in intended non-condom use (R Square = .54). In evaluating the unique contribution of each of the predictors, past behaviour made the strongest unique contribution to explaining intended non-condom use (beta = .49), followed by attitudes (beta = -.38), and fatalistic TP (beta = -.24). The ANOVA table indicated that the model as a whole was statistically significant [F (7, 108,) = 18.52, $p < .0001$]. Table 7.4c provides the beta coefficients and their level of significance.

Table 7.4a

Summary of Standard Regression Analysis for Variables Predicting Participants' Intended Unprotected Sex (N=197)

Variable	B	$SE\ B$	β
Attitudes	-0.54	0.08	-0.39***
Subjective norm	-0.06	0.07	-0.04
Culture	0.41	0.14	0.15**
RS dichotomy	0.19	0.14	0.71
Future TP	-0.33	0.16	-0.11*
Fatalistic PTP	-0.51	0.13	-0.23***
Hedonistic PTP	0.10	0.16	0.04
Past Behaviour	0.40	0.05	0.47***

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

Table 7.4b - Participants in No Relationship

Summary of Standard Regression Analysis for Variables Predicting Participants' Intended Unprotected Sex (N=81)

Variable	B	$SE\ B$	β
Attitudes	-0.49	0.10	-0.47***
Subjective norm	0.07	0.09	0.07
Culture	0.36	0.17	0.18*
Future TP	-0.20	0.19	-0.10
Fatalistic PTP	-0.46	0.19	-0.26**
Hedonistic PTP	0.24	0.26	0.11
Past Behaviour	0.34	0.08	0.38***

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

Table 7.4c - Participants in Exclusive Relationships

Summary of Standard Regression Analysis for Variables Predicting Participants'Intended Unprotected Sex (N=116)

Variable	B	$SE\ B$	β
Attitudes	-0.55	0.12	-0.38***
Subjective norm	-0.15	0.10	-0.10
Culture	0.45	0.21	0.16*
Future TP	-0.47	0.25	-0.14*
Fatalistic PTP	-0.54	0.18	-0.24**
Hedonistic PTP	0.08	0.21	0.03
Past Behaviour	0.43	0.07	0.49***

$*p < .05; \quad **p < .001; \quad ***p < .0001.$

iv. Moderation.

Prior to moderation, the variables were *centred* to avoid multicollinearity between first-order variables and their interactive terms. That is, the sample mean of a variable was subtracted from the variable. Centred variables were then multiplied to form the interactive terms.

1. TP was hypothesized to moderate the attitude-intended behaviour relationship. A hierarchical multiple regression analysis was conducted to investigate this hypothesis. Specifically, future TP, present hedonistic and fatalistic scores, and attitudes were entered at Step 1, followed by their interactive terms at Step 2.

Results revealed that present-fatalistic TP moderated the attitude - intended behaviour path. The interactive term significantly increased the variance in intended non-condom use by 2%, that is,

from 36% in Step 1 to 38% in Step 2. Table 7.5 presents the relevant coefficients and their significance levels.

Table 7.5

Prediction of Intended Non-Condom Use from First-Order Factors and the Interactive Term (N=197)

Variable	B	SE B	β
Step 1			
Attitudes	-0.82	0.08	-0.60***
Fatalistic PTP	-0.28	0.13	-0.12*
Step 2			
Attitudes	-0.65	0.11	-0.48***
Fatalistic PTP	-0.22	0.13	-0.10
Attitudes x Fatalistic PTP	0.31	0.14	0.17*

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

Note: R Squared Change = .36, for Step 1 (p < .0001);

Δ*R Squared Change* = .02, for Step 2 (p < .05).

2. Relationship status and culture were expected to moderate the attitude-intended behaviour path. Also, the possibility of culture moderating the subjective norms-intended behaviour was explored.

The statistical analysis measured the differential effect of the independent variable, or predictor (attitudes) on the dependent variable, or criterion (intended non-condom use), as a function of the moderator (relationship status). A moderation effect would be the significant interaction of the predictor and moderator on the criterion.

2 x 2 ANOVA tests were used to assess moderation. As both predictor and moderator ought to be at the same level of measurement, attitudes were transformed into a dichotomous variable, using the median as the cut-off point. The transformed attitude variable had low scores (1-3), reflecting participants' positive attitudes toward unprotected sex, and high scores (3.1-5), reflecting participants'

negative attitudes towards unprotected sex. The moderator had scores
of: 1 = exclusive relationship, 2 = casual relationship(s), and 3 = no
relationship. The results revealed significant main effects between
relationship status and intended unprotected sex
$[F(2, 191) = 14.02, p < .0001]$, and attitudes and intended unprotected
sex $[F(1, 191) = 30.81, p < .0001]$. The interaction effect was $[F(2, 191)
= 3.19, p < .05]$, thus revealing RS as moderating the attitude -
behaviour relationship (see figure 7.3. below).
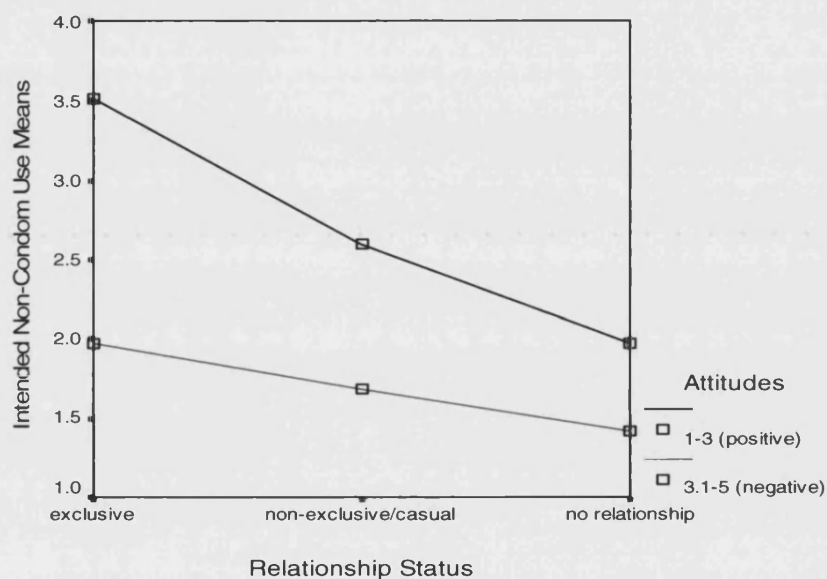
Figure 7.3. Intended non-condom use as a function
of RS and Attitudes.

Culture did not moderate the attitudes-intended behaviour
relationship or the subjective norms-intentions path.

3. Potential moderator interactions between the components of
the TRA in relation to intended non-condom use were explored, whilst
taking into consideration TP, RS, culture, and past behaviour.
Specifically, whether attitudes and subjective norms would moderate
each other in predicting non-condom use, whilst controlling for TP, RS,
cultural and past behavioural influences, was assessed.

A hierarchical multiple regression was employed to test these moderator interactions. Future TP, present-fatalistic TP, present-hedonistic TP, RS, culture and past behaviour were entered at Step 1, followed by attitudes and subjective norms at Step 2, followed by the interactive term (attitudes by subjective norms) at Step 3.

Results demonstrated that the model as a whole explained 57% of the variance (R Squared = .57). Variables in Step 1 predicted 46% of the variance (R Squared =.46). When the effects of TP, RS, culture and past behaviour were controlled, TRA variables explained an additional 11% of the variance (R Squared Change = .11). When variables in Step 1 and Step 2 were removed, the interactive term predicted an additional 1% variance, almost significant at the p = 0.07 level. The ANOVA table indicated that the model as a whole was statistically significant [F (9, 187) = 28.03, p < .0001]. Table 7.6 provides the beta coefficients and their level of significance.

Table 7.6

Prediction of Intended Non-Condom Use from TP, RS, Culture and Past Behaviour (Step 1), TRA Variables (Step 2), and the Interactive Term (Step 3)

Variables	B	SE B	β
Step 1			
Culture	0.24	0.15	0.05
Hedonistic PTP	0.30	0.17	0.12
Fatalistic PTP	-0.59	0.15	-0.27***
Future TP	-0.30	0.18	-0.10
Relationship dichotomy	0.21	0.16	0.08
Past Behaviour	0.55	0.05	0.64***
Step 2			
Culture	0.41	0.14	0.15**
Hedonistic PTP	0.10	0.16	0.04
Fatalistic PTP	-0.51	0.13	-0.23***
Future TP	-0.33	0.16	-0.11*
Relationship dichotomy	0.19	0.14	0.07
Past Behaviour	0.40	0.05	0.47***
Attitudes	-0.54	0.08	-0.39***
Subjective norms	-0.06	0.07	-0.04
Step 3			
Culture	0.42	0.14	0.16**
Hedonistic PTP	0.14	0.16	0.05
Fatalistic PTP	-0.54	0.13	-0.24***
Future TP	-0.34	0.16	-0.12*
Relationship dichotomy	0.17	0.14	0.06
Past Behaviour	0.41	0.05	0.47***
Attitudes	-0.55	0.08	-0.40***
Subjective norms	-0.02	0.07	-0.01
Attitudes x Norms	0.14	0.08	0.09[a]

$^{*}p < .05$; $^{**}p < .001$; $^{***}p < .0001$;

[a] significant at the .07 alpha level.

Notes: R Squared Change = .15 for Step 1 ($p < .0001$);

ΔR *Squared Change* = .28 for Step 2 (p < .0001);

ΔR *Square Change* = .007 for Step 3 (p = 0.07).

4. Finally, TP, RS, and culture were hypothesized to moderate the intention - past behaviour and attitude - past behaviour relationships. Potential moderations of the subjective norms - past behaviour paths were also explored.

Firstly, a hierarchical multiple regression analysis was conducted to assess the moderating effects of TP in the intentions – past behaviour relationship. Fatalistic PTP, hedonistic PTP, future TP, attitudes, intentions, and subjective norms were entered at Step 1, followed by their interactive terms at Step 2. No statistically significant moderation effects were found.

Moderation effects of relationship status were assessed via 2x2 between-groups ANOVA tests. Results showed that RS moderated the attitudes - past behaviour path (see figure 7.4. below). Specifically, there were significant main effects between attitudes and non-condom use [F (1, 191) = 10.23, p < .001] and between all three relationship types and non-condom use [F (2, 191) = 19.96, p < .0001]. The interaction between attitudes and RS was significant [F (2, 195) = 4.92, p < .001].
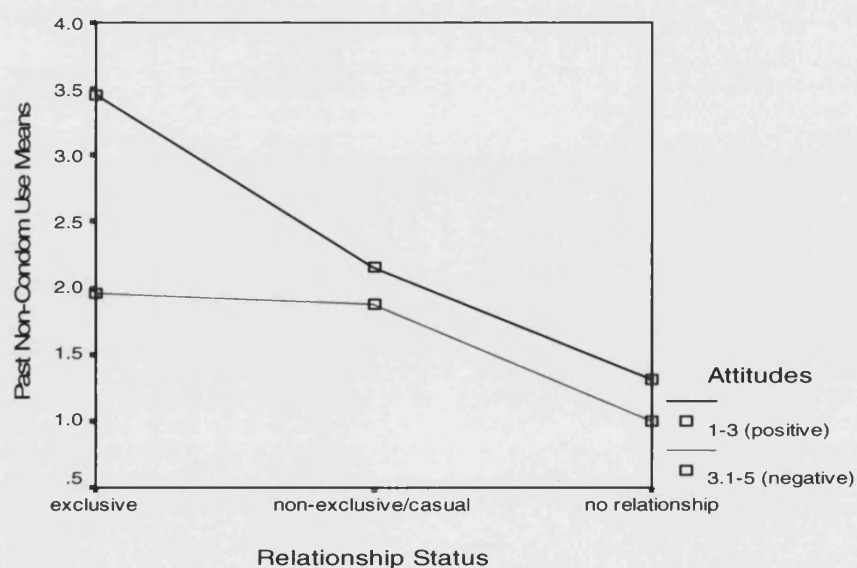

Figure 7.4. Past non-condom use as a function

of RS and Attitudes.

7.3. Results of Qualitative Analyses

A. Interviews

i. Topics Used in Content Analysis.

A number of recurrent topics emerge from previous research regarding relationship status and contraceptive behaviours. Twelve topics were chosen for investigation, as they related to the research questions.

1. Condoms are suitable for casual, non-exclusive relationships.

2. Condoms are not suitable for steady, exclusive relationships.

3. Love, trust, and intimacy (i.e., feelings experienced in exclusive relationships) protect from STDs.

4. Condom use means mistrust, distance, lack of love, possible infidelity.

5. Non-condom use means: trust, proximity, knowledge of partner, love, fidelity.

6. Time issues: relationship status (especially exclusivity) is reached hastily; exclusivity is almost pre-determined.

7. Time issues: RS is not static; it changes as a function of time, and condom use interacts with a developing relationship status, following a typical three-phase pattern. Specifically, at the beginning of the relationship (relationship status is uncertain), heightened condom use occurs. As relationship progresses to exclusive status, inconsistent/reduced condom use is observed. Finally, when exclusive status is reached, condom use stops.

8. Differential function of condoms: in exclusive relationships condoms are predominately used for pregnancy prevention, whereas in casual relationships condoms are mainly used STD prevention.

9. Proper, ideal relationships are spontaneous, romantic, fateful, even. Carrying and using condoms contradicts this ideal due to the premeditation and calculation involved.

10. Condoms act as a disease reminder; condoms are inherently associated with disease and not with the sexual act itself.

11. Condoms reduce pleasure; reduced physical pleasure acts as a justification of non-condom use.

12. Condom use is viewed as a hassle.

Content analysis revealed representative quotations for each of the twelve topics. Topics and representative quotations are summarized in table 7.7., in which the relative importance of each topic is displayed (quantification). Topics are ordered on the basis of perceived significance.

TABLE 7.7	Topics	Representative quotations	Response frequency
Condoms are suitable for casual relationships.		"...a mere acceptance that, ok, you have to use a condom because you don't know the other well, you're not exclusively seeing each other..."	18 instances
Condoms are disease prompts.		"...you only really think about stuff like that when you think about bringing a condom..."	17 instances
Time Issues: Exclusivity reached hastily; almost pre-determined.		" I guess one to two weeks..." "...from the moment you start a relationship..."	13 instances
Condoms are not suitable for exclusive relationships. In exclusive relationships condoms are used for contraception; in casual relationships condoms are used for STD protection.		" But if I am in an exclusive relationship, she uses pills or injections" " For health reasons to begin with, and for pregnancy". [in casual relationship] " Because I do not want to get pregnant and I wouldn't want to get STD's, but I've been tested and so has he, so..." [in exclusive relationship]	11 instances 11 instances
Planning condom use contradicts the spontaneity of "proper" relationships.		" A woman like that plans ahead, she guards herself. On the other hand, I would describe her as scared. Not too liberated and not adventurous".	10 instances
Love and trust protects from STDs. Non-condom use means love and trust. Condoms reduce pleasure.		" When you are with someone and you are certain that your relationship is exclusive, you don't need to worry. I mean for STDs". " I will know my girlfriend and I will know that she won't be fooling around, as I won't be either". "...and the sensation physically is better without one". [a condom]	8 instances 8 instances 8 instances
Condom use means mistrust, lack of love, possible infidelity.		"...a matter of mistrust. You don't really know the other person".	7 instances
Time Issues: Condom use varies with relationship status (3-phase process).		"...to begin with I used condoms but then we stopped using condoms because she was on the pill, which is silly, I know".	6 instances
Condoms are a hassle.		"It's a hassle to have one [a condom] and make sure that you always do"	3 instances

ii. Themes and sub-themes.

Further reading through the data yielded four main themes, which represent the major findings of the interviews. These main themes were developed via finding the converging commonalities amongst topics and quotations. Themes consist of re-emerging patterns in participants' attitudes and motivations; some of these attitudes and motivations are openly stated by participants, whilst others are to be uncovered by the researcher, by 'reading between the lines' of the transcriptions (Neuman, 1994). For example, when certain ideas, feelings, or behaviours, appeared repeatedly in the interviews, then they were considered as recurrent themes. Thus, the investigator is expected to show a considerable degree of sensitivity towards the nuances of participants' reports, in order to synthesize appropriate themes.

Theme 1: An emotional and behavioural polarity

Love, trust, and intimacy (as experienced in exclusive relationships) justify sexual risk, *versus*, lack of love, mistrust, and distance (as experienced in casual relationships) justify safe sex.

This was a predominant theme, reflected in all interviews. Participants explained that unsafe sex, in the context of a long-term relationship, preserves and intensifies feelings of love, intimacy and commitment. By contrast, condom use was perceived as a symbol of emotional distance and detachment, a form of protection from the partner, which was suitable for casual/non-exclusive relationships. Furthermore, most participants in exclusive relationships disconnected sexual intercourse from condom use. Condoms were regarded as alien to love, trust, and proximity; in fact, condoms were viewed as threatening to the experienced closeness:

"When you are with someone and you are certain that your relationship is exclusive, you do not need to worry. I mean for STDs. You know that your partner is healthy. I can feel it if he is healthy or not" (Greek female, age 21, in exclusive relationship).

"...but it is also a matter of trust...I mean that I will know my girlfriend and I will know that she will not be fooling around, as I won't be either" (Greek male, age 24, in casual relationship).

"There's a little bit of plastic between you and the other person, that sort of thing, and I think that crushes a sort of sense of intimacy that there is" (British male, age 20, single).

Some participants viewed condom use as irrelevant to sexual intercourse, in general, irrespective of relationship status:

I am embarrassed to say this, I am reckless, but this is how it is. On some occasions [in casual relationships] when I wanted to use it we didn't have one [condom]. Many times I have regretted it, but I get swept away by the moment. I feel in love with everyone (Greek female, age 24, single).

Look, I do want to use a condom when it comes to a frivolous relationship...Yet, eventually, you can't know what you will do at that specific moment, and if you know the person, let's say you're friends, you may not use one (Greek female, age 20, single).

Thus, by and large, the participants in this study did not use condoms when in an exclusive relationship, or at least preferred not to. At the same time, some participants did not use condoms, in general. This theme is in accord with research suggesting that internalized

social representations of 'condoms' and 'sexual intercourse' are separate and independent. Young people tend to perceive condoms as irrelevant to passion, lust and love (Loumakou et al., 2001).

Under this emotional and behavioural polarity, there were enough data to account for two related sub-themes: (a) romance versus logic; (b) condom dual function.

Romance versus logic.

Participants thought of a 'proper' loving relationship as being romantic; ideal relationships occur naturally, they are magical, naïve. Partners in romantic relationships are expected to 'lose' themselves in one another, to let go of restraints and logic, to become one. Being prepared for sex (i.e., carrying condoms and using them) rests in sharp contrast with idealistic notions of romantic relationships. Having a condom and using it implies logic, calculation and pre-meditation. Condoms are thus excluded from the domains of 'proper' relationships, and deemed appropriate for casual encounters:

"A woman like that [who habitually carries condoms] plans ahead, she guards herself. She is well informed. On the other hand, I would describe her as scared. Not too liberated and not adventurous" (Greek female, age 23, single).

> Because they go into casual relationships and I think, you always need to be prepared. You never know what is going to happen – they don't want to get caught out, so I don't attach any stigma to them apart from being sensible (British female, age 23, in exclusive relationship).

The above theme and sub-theme reflect widely held cultural scripts which dictate what kind of behaviours and feelings are appropriate in intimate relationships (Bowleg, Lucas, & Tschann, 2004). For example, sexual scripts include cultural norms which shape beliefs

about what types of partners are appropriate in a sexual relationship, what kinds of sexual practices are acceptable, and also what types of emotions should be experienced and sought after, in close sexual relationships. Specifically, norms about romance and intimacy encourage people to perceive heterosexual intercourse as romantic, spontaneous, and unintentional. Traditional sexual norms encourage people to view sex as appropriate within a context of an emotionally committed relationship, and sex as an expression of that intimacy. Moreover, the literature suggests that these notions about the appropriateness of sexual intercourse within an intimate relationship, as well as the premium placed on romance and intimacy, are universal (Golden, 1996). However, traditional sexual norms do not prescribe guidelines for contraception; notions of 'letting-go' exclude condom use. mOreover, tradition is inherently intertwined with religion; religious principles put a premium on the sanctity of love and marriage, whilst condemning contraception as it does not allow for offspring.

Condom dual function.

This sub-theme reflects participants' statements about the two different functions condoms play, depending on relationship context. In exclusive relationships, condoms - if used - were used for contraception, whereas in casual relationships condoms were used for STD protection. This differential use of condoms is compatible with the behavioural and emotional polarity, described above. To elaborate, in a trusting relationship, whenever condoms are used, they tend not to alienate the partner; condoms are simply a contraceptive choice. By contrast, condom use in casual relationships protects partners from each other, as they are used for STD prevention:

...when not being in a proper relationship, I think the main fear of it isn't sort of pregnancy scare, it is disease and stuff like that, but once you're in an exclusive relationship with someone and there's a sense of trust, you don't really feel the need for it...(British male, age 20, single).

Researcher (R): When you are in an exclusive relationship, what are your reasons for using condoms?

Participant (P): Just for pregnancy.

R: Not for STDs?

P: No.

R: Why not?

P: Well, if you decide not to use condoms anymore, then you decide to get tested, and if you are free from diseases then you decide on not using condoms anymore (dialogue excerpt with male British participant, age 23, in exclusive relationship).

A key point here is the temporary nature of condom use in exclusive relationships, which will be discussed under theme 3.

Theme 2: Condoms: Pleasure versus Hassle

Several participants commented on the pleasure aspects of not using condoms. Specifically, condoms were perceived as diminishing bodily pleasure. Diminished physical pleasure was attributed to the material of the condom (latex), as well as to the whole process of stopping physical contact, putting on the condom, and continuing with intercourse. As a result, condoms were viewed as a "hassle":

It's a hassle to have one and make sure that you always do. And it's kind of a hassle to get it out because of the loss, well, it's not really what you're thinking about and the sensation physically, it's better without one (British male, age 21, single).

Now I enjoy it more [intercourse without a condom]. I didn't like the interruption of that private moment. And then you have to take it out. Regarding the sensation, it's better without one. But the difference with or without one is small. Those who say that there is a huge difference without a condom are exaggerating. It's more a psychological issue (Greek female, age 22, in exclusive relationship).

People weigh the benefits of using a condom over not using one. Using a condom would mean experiencing reduced pleasure and immediate hassle, whereas not using one would mean experiencing immediate pleasure and only a potential long term-hassle (e.g., a pregnancy or STD). Authors have reported (e.g., Kirscht, 1983) that when people weigh the costs and benefits of adopting a health behaviour, they take 'pleasure issues' into account. Healthy habits, such as using condoms, require discipline, consistency, premeditation, and lack of spontaneity. At the same time, the benefits of healthy habits are not definite and immediate; benefits of health-related behaviours are indefinite and evident in the future. Therefore, people do not always have the desire and motivation to take precautions, especially when the resulting danger from unhealthy habits is just a vague notion. Under such circumstances, people will prefer the definite immediate benefits of a health-compromising activity, instead of the potential future benefits of a health-promoting activity (Papadatou & Anagnostopoulos, 1999).

Despite the fact that this theme refers mainly to bodily issues, satisfaction of physical needs is not irrelevant to satisfaction of

emotional needs, as these two tend to interact. For a lot of people, physical pleasure presupposes strong feelings of trust and intimacy. Eventually, condom use is envisaged as the obstacle of achieving both physical and emotional satisfaction. Research has shown that the emotional meaning of having unprotected sex, sexual fantasies, and trust, all contribute to the difficulty of maintaining safe-sex practices (Gold & Skinner, 1992).

Theme 3: Time

Time proved to be a critical factor in people's shifting perceptions of risk and safe-sex activities. Two behavioural patterns emerged as a function of time.

First, relationship status was determined very early in the relationship. Most participants regarded 'exclusivity' as the preferred relationship style and exclusive status was reached very quickly, hastily, even. Exclusivity seemed, at times, to be, pre-determined or forced upon the partners, by the partners themselves. The quotes below are indicative of the short time needed to reach exclusive status:

"It's in my mind from the start. That is, when I start dating someone, I view it as an exclusive relationship" (Greek female, age 19, single).

"I guess, one to two weeks, depending on how the relationship would progress" (British male, age 20, single).

"...about a month or so? When you've had that little talk, when you say, 'oh, I don't want to see anybody else', about a month, I guess" (British female, age 19, single).

Researcher (R): How long do you have to be in a relationship before considering it as exclusive?

Participant (P): I think from the moment you start a relationship, it should be exclusive. From the moment that I meet the person, if I am interested in that person, that, for me is already exclusive.

R: Even before dating the person?

P: Yes.

R: So, you first decide that you view this person as exclusive and then you ask them out? Is that what you are suggesting?

P: Yeah (dialogue excerpt with male British participant, age 23, in exclusive relationship).

The above quotations reflect participants' preference for exclusivity. The reasons for preferring exclusivity are clear cut; as discussed in theme 1, an exclusive partner realizes the need for intimacy, closeness, and love. Moreover, these quotes reflect a rather recent trend in relationships: *serial monogamy,* that is, the individual's perception that every new relationship is exclusive and serious. Instead of having one or two serious long-term relationship, young people, nowadays, tend to have a succession of short-term exclusive relationships. Research has shown individuals who engage in serial monogamy tend not to use condoms because they regard their relationships as exclusive, and thus, safe from STDs and HIV (Catania, Stone, Binson, & Dolcini, 1995). Ingham, Woodcock, and Stenner (1991) revealed that an emphasis on serious relationships encourages premature trust between partners and thus, condom non-use. In a Greek study, Kordoutis, Loumakou, and Sarafidou (2000) found that 63% of the young participants (18 – 25 years old) did not use condoms as they moved from one relationship to another because they perceived each relationship as steady. Serial monogamy poses serious threats to sexual health; in addition, it can be a variable that confounds research

results which manipulate socio-cognitive factors, such as attitudes towards condoms. For example, an individual who consistently has unprotected sex and successively passes from one short-term exclusive relationship to the next may also have positive attitudes towards condom use. This person does not perceive herself to take sexual risks, even though she does not use condoms.

It should be noted, however, that in the current study, not all participants engaged in serial monogamy. Eight out of the nine British participants reported a swift attainment of exclusivity. Six out of eight Greek participants reported longer times towards attainment of exclusive status. Representative answers from Greek participants to the question "how long do you have to be in a relationship before considering it as exclusive", were:

"A long time must elapse, a year, at least" (Greek male, age 24, in exclusive relationship).

"Four to six months. At least four months" (Greek female, age 24, single).

"Generally speaking, you can never regard a relationship as exclusive" (Greek female, age 20, single)

Thus, cultural differences were observed; most Greek participants did not regard every relationship as exclusive and felt that exclusivity was not readily achieved.

Another, time-based, behavioural pattern portrayed the progression from non-exclusive to exclusive relationship status. This progression interacted with condom use. Specifically, during the initial stages of a relationship (relationship status uncertain), individuals tended to use condoms consistently. As the relationship progressed towards being exclusive, condom use was gradually reduced. Finally,

once the relationship was regarded by partners as exclusive, condom use stopped. Participants viewed this process as logical and natural:

> Researcher: Let's say you're in an exclusive relationship. Do you use condoms in that situation?
> Participant: Until I get tested, or [I get] her tested. And then, no condoms anymore (dialogue excerpt with male British participant, age 23, in exclusive relationship).

"I'd like to make clear that initially, we used condoms. Later on I started the pill" (Greek female, age 22, in exclusive relationship)

This three-phase behavioural pattern has been repeatedly reported in sexual risk research findings. Interestingly, this interaction between condom use and relationship status, has been observed in 'healthy', as well as in affected with HIV and hemophilia partners. For example, Rhodes and Cusick (2000; 2002) found that couples affected by HIV (both in discordant and concordant relationships) maintained and strengthened the intimacy of their relationships via non-condom use, despite the known viral dangers. In such contexts, unprotected sex signifies a total life commitment to the other person; the ultimate proof of everlasting love. The words of an HIV negative heterosexual, in an exclusive relationship with an HIV positive partner, demonstrate this need for intimacy and shared destiny:

> If I became HIV positive, so be it...Because, you know, I don't really want to live without him. It might sound crazy, but I don't want to live without him, because he's the best thing that, the best person I've ever met (in Rhodes & Cusick, 2000, p. 12).

Research has provided some explanations accounting for the reasons why partners put such a premium on intimacy and love, despite potential known and unknown STD infection.

Firstly, the habituation of unprotected sex as a reduced risk over time can be perceived as increasingly risk-free (Rhodes & Cusick, 2000). With exclusive partners, the increased frequency of intercourse intensifies feelings of closeness and similarity, resulting in estimates of low HIV and STD risk, and to the belief that their partner must be safe (Swann, Silvera, & Proske, 1995).

Secondly, research conducted in motivation processes and goal attainment, have suggested that goals compete for being pursued over a given period of time. Specifically, Atkinson and Birch (1970) have put forth a behavioural model which explains what happens when more than one goal is competing, and predicts when people will change from one activity to the other. This model rests on a time dimension, as it hypothesizes that the forces that influence the activities increase or decrease in intensity, as a function of time. At the beginning of each action, instigating and inhibitory forces are present. The interviews revealed two competing forces (and related goals): participants want to use condoms (instigating force) but fear that condom use will interfere with intimacy (inhibitory force). Action starts when instigating forces are stronger than inhibitory forces. Thus, in the onset of a relationship when relationship status is uncertain, condom use takes place. However, the model states that instigating forces will be counteracted by antagonistic inhibitory forces, partly because the first goal is partly satisfied and partly because a new goal becomes more important. Thus, the first goal of safety is partly satisfied and, then, as relationship status changes, the second goal of intimacy becomes more important. Instigating forces will act in favour of intimacy, until the introduction of another potential goal.

Thus, it can be inferred that, on one level, the simple passage of time regulates the interaction between relationship status and condom use. Yet, on a deeper level, what underlies the premium placed on

exclusivity and unprotected sex seems to be a wider social development, associated with modernity (Giddens, 1992). To elaborate, nowadays, social institutions, such as religion and the traditional-extended family have lost their appeal. Such institutions used to provide people a sense of security and sanity, a sanctuary even; these needs are now realized predominately through intimate erotic relationships. By and large, modern industrialized societies are characterized by constant change, which results in insecurity, doubt, and fear. Exclusive relationships are perceived by most people as the main antidote to doubt; and this is why they are so sought after. Eventually, however, exclusivity proves not to be the solution to society's ambiguities because intimate relationships are inherently fragile; the more intimate the relationship, the more vulnerable it becomes (Bauman, 1993). Regarding unprotected sex, the trust experienced in exclusive relationships is the simultaneous giving up of self-protection and the introduction of partners to potential sexual risks. Thus, realistically, couples substitute one type of insecurity (being alone), with another type (the extent they can trust their partner). According to Bauman (1993), people cannot actually choose between trust and mistrust. People perceive others as trustworthy and suspect at the same time, which results in a state of "permanent cognitive dissonance" (Bauman, 1993, p.116). Obviously, love, trust, and intimacy are fundamentally problematic risk management strategies, as they always encompass doubt.
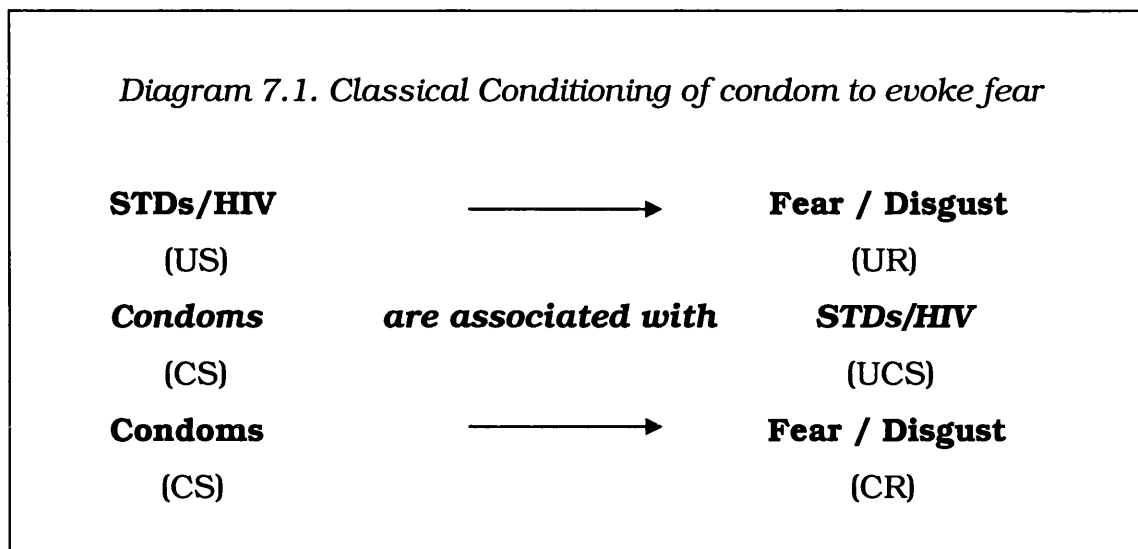
Theme 4: Fear

Participants of this study viewed condoms as reminders of disease. Condoms seemed to evoke images of STDs and disgust responses:

"...and there's the fear of sort of infections and stuff, and generally it's, you only think about stuff like that when you think about bringing a condom..." (British male, age 20, single).

"...I do want to use a condom...the most important thing is protection, there are various diseases, you never know if the other person has one" (Greek female, age 20, single).

Participants had learned to associate condom use primarily with danger and risk - not safety; this could be viewed as a paradox, since condoms are supposed to be used to guard partners from dangers resulting from STDs. However, this situation is easily understood if certain public practices are taken into consideration. Specifically, it seems that the messages put forth by sexual health programmes and public interventions have managed to connect fear of STDs and HIV with condoms. Fear is connected with the object that is suggested for protection. Public scripts regarding the dangers caused by STD and HIV infection run simultaneously with the suggestion of condoms as the only protective measure. Eventually, condoms and STDs/HIV are intertwined; the mere thought of a condom carries images of disease and vice-versa.

Thus, speaking from a simple learning perspective, condoms may have been classically conditioned to evoke fear and disgust reactions For example, after being repeatedly associated with notions and images of disease (unconditioned stimulus-US) which naturally cause a fear reaction (unconditioned response-UR), the condom (conditioned stimulus-CS) evokes on its own a fear reaction (conditioned response-CR). Individuals normally avoid feelings of fear and disgust, as well as the stimuli that cause them. Diagram 7.1 below depicts the classical conditioning process.

Diagram 7.1. Classical Conditioning of condom to evoke fear

STDs/HIV	———————▶	Fear / Disgust
(US)		(UR)
Condoms	*are associated with*	*STDs/HIV*
(CS)		(UCS)
Condoms	———————▶	Fear / Disgust
(CS)		(CR)

Participants' talk conveyed fear and anxiety regarding the sexual act itself; yet, fear of sexual intercourse was objectified in the condom. Research has demonstrated that fear paralyzes people; fear does not mobilize health protective behaviours, on the contrary, health protective behaviours are avoided as a response to fear (Loumakou et al., 2001). Thus, protection is associated with fear and prompts an anxiety response.

Finally, participants' responses and the overall interview tone, gave a generalized sense of fear. Fear was underlying all topics; fear of being alone without a steady partner, fear of a relationship not reaching exclusivity, fear of not experiencing love, intimacy and physical pleasure, fear of unprotected sex, fear of condoms, fear of diseases, fear of infidelity. Thus, it could be argued that participants, at the same time, longed and feared exclusivity. Bauman's (1993) view that people cannot easily choose between trust and mistrust, is relevant in this theme too.

B. Documents

i. Topics.

Document data yielded the following seven topics:

1. An enormous emphasis is placed on the use of the contraceptive pill, suggesting pregnancy prevention as a primary concern.

2. Condom use is regarded as offensive in exclusive relationships.

3. Oral sex is perceived as risk-free.

4. Condoms are not suitable for exclusive relationships.

5. Condoms are best suited for casual relationships.

6. Love, trust and intimacy protect from STDs.

7. Non-condom use means trusting the erotic partner.

Results are summarized in table 7.2 below, in which the quotations and the relative importance of each category (quantification) are provided.

Table 7.2. *Topics yielded from document analysis.*

Topics	Representative quotations	Response Requency
Condom use viewed as offensive in serious relationships.	"I've been in an exclusive relationship and never used the condom".	10 instances
Exclusivity protects from STDs.	"If you are in an exclusive relationship you assume your partner does not have a disease"	9 instances
The pill is the main contraceptive method. **Condoms are not suitable for exclusive relationships.**	"...using the pill. You can be careful without using condoms" "I have been in a relationship for 3 years, it was my first sexual relationship...so there is no need to use a condom".	8 instances 8 instances
Condoms are suitable for casual relationships.	"In any other situation [casual] I would use a condom".	5 instances
Non-condom use means trusting your partner.	I have been with the same partner for 4 years, I am therefore, not in any health risk".	4 instances
Oral sex is risk-free.	"I always use a condom for sex but not oral..."	3 instances

ii. Themes.

Further reading through the data yielded four main themes, which represent the major findings from the documents.

Theme 1: Condom use is offensive in exclusive relationships.

It was clear from ten participants' statements that they regarded condom use as offensive, within the context of an exclusive relationship. To elaborate, the questionnaire defined non-condom use as 'unprotected sex', and specified that other forms of contraception were irrelevant to the specific study. Some participants disagreed with this definition; they did not perceive non-condom use as unprotected

sex in their exclusive relationships. These participants clearly felt the need to explain that their relationship was 'serious' and, as such, condoms were not necessary. They defended their choice not to use condoms. Participants' tone was challenging, even aggressive, at times. It was evident that participants totally rejected the suggestion that they were having unprotected sex when they were not using condoms:

> ...by your definition of unprotected sex – I have it all the time – however, I am on the pill and have been with the same partner for 4 years. I am therefore not at any health risk, this is also the case for many other people (British female, age 19).

> I don't agree with the term 'unprotected sex' as I use the pill and I am being labeled as having 'unprotected sex' which can be seen as offensive. I have been in an exclusive relationship for over 3.5 years and have never used a condom as I've always used the pill (British female, age 18).

"I have been with my boyfriend for 4 years and I am on the pill and therefore, I feel I am still being responsible in my sexual relationship" (British female, age 18).

These responses are not unexpected, as similar findings have been demonstrated in a number of studies. For example, Juran (1995) has shown that exclusivity creates such an atmosphere of trust and closeness that condom use is perceived as offensive and threatening by erotic partners. Apostolodis (1993) found that in an exclusive relationship the suggestion of condom use from one partner is not only viewed as offensive by the other, but it is also interpreted as evidence for infidelity. Defensive/aggressive reactions are also signs of doubt and insecurity. As analyzed in the previous section, the more intimate the

relationship, the more vulnerable it is. An erotic partner can never be completely certain about the other's fidelity; there is always an underlying suspicion, an unresolved tension between doubting and trusting the other. Therefore, the mere suggestion of anything that taps on this insecurity (in this case, condom use) is likely to cause a reaction, often an exaggerated one.

Theme 2: The supremacy of the contraceptive pill

Participants emphasized using the pill as the main contraceptive method within the context of an exclusive relationship. The pill was regarded as adequate protection. However, it was evident that participants' main concern was avoiding pregnancy, as they assumed their partners to be disease-free. Thus health and safety was estimated in terms of pregnancy and not STDs:

"...but whether your partner is on the pill is a big influence on whether wearing a condom is important for health and safety" (British male, age 19).

"I am on the pill, I've been in an exclusive relationship for 4.5 years, and we were both tested for STIs before we stopped using condoms" (British female, age 20).

"I have been in an exclusive relationship for 3 years, I was on the pill, but he had already been tested for STDs and had none, so there was no need to use a condom" (British female, age 19).

This theme uncovers young peoples' beliefs regarding safe sex and voices serious concerns.

Specifically, participants understood safe sex to mean contraception (i.e., pregnancy prevention). Sex was still regarded as 'safe' when condoms were not used. Yet, when safe sex means solely contraception, partners are made more vulnerable to STDs. Kirkman,

Smith, & Rosenthal (1998) argue that notions of safe sex have been dichotomized; young people, as well as members of the wider community, frequently equate the contraceptive pill to safe sex and the condom to STD prevention. Pills and condoms are viewed as performing distinct functions. Kirkman et al. urge vigilance in retaining the principal meaning of safe sex as ways of having sex that reduce or eliminate the chances of contracting STDs.

Furthermore, the medical system in Britain encourages and promotes the pill as a legitimate contraceptive choice from the early adolescent years. Young girls, in school or at university, find no difficulty in being prescribed the pill. There is no conclusive evidence that the pill taken at such an early age can cause physical or emotional side-effects. Nevertheless, promoting the pill as a main choice, even within a steady relationship, de-emphasizes condom use. Inconsistent or no condom use, especially in exclusive relationships, is the main reason for heterosexual STD transmission; women contract STDs predominately from their steady partners (Kyriakis et al, 2004). When medical staff prescribe the pill with such ease, they indirectly put forth the idea that protection from pregnancy is more important than protection from STDs. However, STDs lead to serious health hazards, even death, whereas pregnancies, normally, do not have such dramatic consequences. In addition, condom use protects from both pregnancy and STDs and thus it would be logical for a medical system to promote condoms, above all other contraceptive choices. The question is why any medical system would promote the contraceptive pill in very young couples, over and above the condom. A number of reasons have been given:

1. It is expensive for a medical system to diagnose and deal with teenage pregnancies (Carr, 2002). For example, the cost of treating potential complications of teenage pregnancy, such as toxaemia, hypertension, low birth weight, and subsequent spontaneous abortions, is very high. In addition, pregnant teenagers tend to drop out of education early, have poor employment prospects and tend to become

dependent on welfare. Finally, the stresses of teenage parenting are linked with later depression and anxiety disorders in both mothers and their offspring. All of these issues burden governments economically to a great extent; this is definitely the case in the UK, as it has the highest teenage pregnancy rate in Europe (Coleman & Roker, 1998; Stone & Ingham, 2002). Compared to teenage pregnancies, STDs do not cause such devastating consequences in socio-economic and psychological domains, especially since many STDs are asymptomatic and may go untreated for a very long time.

2. A pregnant teenager is negatively stigmatized. Pregnancy cannot be hid; it can be a huge embarrassment and a disruption of the lives of everyone concerned. An unwanted teenage pregnancy labels the teenage girl unfavourably; she may be classed as 'promiscuous', 'immoral', 'an easy lay', 'damaged goods'. On a more philosophical level, society's ideals of female virginity innocence and purity are destroyed. Although the same labels can be attached to a woman who carries an STD, this cannot be easily done, due to the fact that STDs are not obvious and are hushed.

Thus, it can be inferred that young peoples' preference for the pill is not really a personal, health-protective choice but the result of a governmentally promoted cost-effective choice.

A final issue to be raised here is whether the pill is safe, as compared to the condom, for the female body.

In some countries (e.g., Greece) it is accepted that pills should not be prescribed without a prior gynecological examination (Dr. T. Panagiotopoulos, personal communication, December 16, 2005). This examination is done to ascertain the medical status of the woman, as not all women are eligible for taking the pill. In particular, a pap-smear and a thorough cervical examination are required, as well as blood tests checking for specific hormonal levels and blood-clotting tendencies. Evidence for hypertension is also checked. These tests are quite expensive, they are to be repeated regularly, and a team of medical doctors are needed to perform all of them (e.g., a gynecologist, a

microbiologist, and a cytologist). Moreover, not all pills are suitable for all women; there are several types of contraceptive pills, which release different types of hormones, at different dosages; once again, only gynecologists can make these subtle choices. British women who wish to take the pill need not see a gynecologist and they can be prescribed the pill by a variety of health specialists. Usually, in the UK, blood pressure is checked, and a few questions are asked about instances of breast cancer and thrombosis in immediate family members. A thorough cervical examination is not routinely performed in the UK prior to the prescription of the contraceptive pill (http://www.netdoctor.co.uk).

The decision to have a pap smear prior to taking the pill is a serious (and a controversial) issue, as the pill should best not be prescribed to women who do not have a 'clean' cervix. For example, the pill should not be taken by women who have an 'active' human papilloma virus – HPV, a virus which causes no symptoms until it has damaged the cervix considerably.

Consequently, unless the right type of pill is prescribed to a woman eligible for taking the pill, it cannot be assumed that this contraceptive method is safe for the female body. At the same time, there are considerable side-effects and disadvantages of taking the pill (Dr. T. Panagiotopoulos, personal communication, December 16, 2005).

It is generally suggested that that the best safe-sex method is the combination of pills and condoms (Kirkman, et al., 1998); thus, the requirements of both pregnancy and STD protection are satisfied. This assumption, however, is made on the basis that the woman is medically eligible to take the pill, and has made an informed choice, after weighing the advantages and disadvantages of both methods.

In conclusion, it seems that contraceptive pills were (mis)understood by participants as adequate methods of safe sex, especially in exclusive relationships. Yet, Greek participants did not readily mention the pill as a contraceptive method that they favoured,

whereas British participants did; this to some extent may reflect differential medical practices in the two countries.

Theme 3: Some types of unprotected sex are risk-free

Some participants did not perceive oral sex as posing a threat for STD infection. One participant reported using condoms for "sex but not for oral", giving, thus, the impression that she did not regard oral sex as 'having sex'. Here too, participants adopted a challenging stance toward the investigator and defended their non-condom use:

"I always use a condom for sex but not for oral but this is not clear in the options" (British female, age 20).

"Do many people use condoms for oral sex? I wouldn't have thought so" (British female, age 20).

"By including oral sex in the definition of unprotected sex will cause the answers to be misleading when being analyzed" (British female, age 20).

These quotations are representative of the general public's perceptions regarding what constitutes 'unprotected sex'. The idea of oral sex as risk-free is widely held among teenagers and adults alike. The risk of contracting a STD through oral sex is indeed lower when compared to other sexual behaviours. Yet, recent reviews have shown that oral sex is a viable mode of several bacterial and viral infections, such as chlamydia, herpes, gonorrhea, and possibly, HIV (Edwards & Carne, 1998a). The perception of oral sex as safe can be attributed to lack of information or erroneous information. For instance, a lot of people purposefully engage in unprotected oral sex to avoid the greater risks associated with other sexual behaviours. Some studies have been conducted in this domain. For example, Prinstein, Meade, & Cohen (2003) found that, from a total of 212 tenth graders in New England, USA, who engaged in oral sex, only 15 reported using a condom 'every

time', and 11 reported using a condom 'some times'. The remaining 186 students reported 'never using' a condom whilst having oral sex. Participants reported that they were significantly more likely to engage in oral sex with significantly more partners, as compared to intercourse. By and large, participants neither perceived oral sex as unsafe, nor as 'real sex'. Obviously, this type of sexual activity places young people at maximum risk for oral transmission of STDs.

However, it is not only young and uninformed people who engage in unprotected oral sex. Richters, Hendry, and Kippax (2003) interviewed 75 homosexually active men in Sydney, who had recently acquired HIV status, about their sexual practices. Participants reported almost never using condoms for oral sex. Thus, even in a community in which safe sex is explicitly accepted, condoms are not extensively used for oral sex.

Theme 4: An emotional and behavioural polarity

Love, trust, and intimacy (as experienced in exclusive relationships) justify sexual risk, versus, lack of love, mistrust, and distance (as experienced in casual relationships) justify safe sex.

This theme was discussed in the interview section (theme 1) in detail.

7.4. Conclusions Drawn from Qualitative Analyses

Qualitative data revealed that relationship status (RS) strongly determined contraceptive and safe-sex behaviours. Yet, it is not RS per se which affects safe-sex behaviours; RS reflects a highly complicated set of meanings, thoughts and emotions and, in addition, via RS psychophysical needs are satisfied. This elaborate net of meanings, thoughts, and needs will significantly determine whether or not condom use is adopted. Meanings implied in exclusive relationships, such as love, trust, intimacy and security, clash with meanings implied by condom use, those being, mistrust, physical and emotional distance,

possible infidelity, possible disease, danger and fear. Moreover, behaviours that show planning and intending to have sex (such as buying, carrying condoms) were judged as contradictory to idealistic conceptions of romantic relationships. Planning for sex implies calculated logic, whereas being in love implies 'swept away by emotions'. Furthermore, condoms were often viewed as hassles which interfered with bodily pleasure. All of these negative notions attributed to condoms eventually establish condoms as offensive, especially when it comes to their use in exclusive relationships. The use of the pill is often adopted as an alternative safe-sex activity, as this method does not carry threatening connotations to exclusivity. However, the preference for the pill increases considerably the risk for STD infections.

By and large, condoms were not preferred as either a contraceptive or as a safe-sex method. It would not be an exaggeration to state that condoms were the least favoured method, adopted predominately by those who had (a) casual relationship(s) or were uncertain of their RS. Thus, condom use was viewed as a transient necessity, ideally lasting until exclusivity was established.

A sense of fear was evident in participants' spoken words. Via associating condoms with STDs/HIV, participants came to feel fear and disgust by the image of condom itself. Thoughts and images of fear are incompatible with sexual intercourse, and individuals, in an attempt to avoid these negative thoughts, may discard condoms altogether. That is, condoms often act as disease prompts and not as safety ones.

Content analysis revealed more cultural similarities than differences. Participants, regardless of country of origin, placed a high premium on love, trust, and intimacy, as experienced within exclusive relationships. Feelings of love and trust were thought of as protecting them from STDs, and consequently, condom use was unnecessary. However, cultural differences were evident in more practical aspects of relationship management. Although exclusivity was the preferred RS in both cultures, the time needed to reach exclusivity differed; in most British participants reported a swift attainment of exclusivity and a

preference for serial monogamy, whereas for most Greek participants exclusivity was not as easily reached. Finally British participants (but not Greek ones) favoured the contraceptive pill over the condom, and used it from the onset of sexual activity. Preference of the pill over the condom reflects differential medical practices and decisions regarding contraception in the two countries. In Britain, the medical system encourages using the pill from an early age, whereas in Greece condoms are more readily available.

Chapter 8

Discussion: Study 2

8.1. Summary of Results of Study 2

A. Quantitative Data

Significant differences were estimated in intended and past non-condom use across the three relationship styles, with participants in exclusive relationships reporting more unprotected sex. Cultural differences were found in: (a) the time participants needed to consider a relationship as exclusive (British participants 'reached' exclusivity status more quickly than their Greek counterparts); (b) choices regarding safe sex methods.

Attitudes, past condom use and relationship status (RS) were significantly associated with intended non-condom use; past non-condom use had the strongest relationship, followed by attitudes. Attitudes, RS and culture were significantly associated with past non-condom use. TP and gender were not significantly associated with intended or past non-condom use.

Past unprotected sex, present TP (fatalistic), and RS were significant predictors of intended unprotected sex. When the sample was analysed as a whole, past behaviour was the strongest predictor of non-condom use. When the sample was split for RS, past behaviour was the strongest predictor of non-condom use for participants who were in exclusive relationships, whereas attitudes were the strongest predictors of unprotected sex for single participants.

RS, present TP (fatalistic) and subjective norms moderated the attitudes-intended behaviour path.

B. Qualitative Data

Condom use (and condom use negotiation) was often viewed as offensive within exclusive relationships, as it implied lack of love, mistrust and distance. The strong emotional bond experienced between partners in exclusive relationships justified unsafe sex. By contrast, the lack of a strong emotional bond, as experienced in casual relationships, facilitated more safe-sex. Also, condom use was strongly associated

with fear and anxiety responses, as it prompted images of STDs. As a result, condom use is avoided, as a means to avoid fear. The contraceptive pill was the preferred contraceptive method in the British sample.

8.2. Discussion of Results

In line with the mixed-methodology framework employed in Study 2, discussion of quantitative and qualitative findings is integrated.

i. Effects of past behaviour

Similar to Study 1, past non-condom use was significantly associated with intended non-condom use, indicating that participants who had engaged in unprotected sex in the past intended to do so in the future. Additionally, past non-condom use had a direct effect on intended non-condom use, over and above the influence of the TRA variables. Past behaviour was also the strongest predictor of intended non-condom use in relation to all of the predictors accounted for in this study, those being, TRA, culture, relationship status and time perspective.

Thus, the ability of past behaviour to predict independently intended non-condom use was established. This result replicates findings of Study 1 and adds to similar findings of other studies, thereby providing more evidence regarding the need to consider past behaviour when employing health-behaviour models such as the TRA. Whether including past behaviour as a standard part of the TRA, or merely using it to test the sufficiency of the TRA, is a matter for the researchers' interpretation of the results, based on their theoretical and empirical background. This study advocates the inclusion of past behaviour as a main variable in sexual risk research.

Yet, the effect of past non-condom use is best interpreted when considering it in conjunction with the context of non-condom use (in this study the context comprised of relationship status – RS). ANOVA

and regression analyses investigated the interaction between past condom use and relationship context. Results from ANOVA analyses revealed that participants who had used condoms in the past intended to use them in the future, irrespective of their relationship status. Participants who had not used condoms in the past did not intend to use condoms in the future, especially if they were in an exclusive relationship. This effect was less pronounced for participants in casual relationships, and much less pronounced for those in no relationship. Nevertheless, the effect size of the interaction was small, explaining 4% of intended non-condom use variance. Effect size of past behaviour was medium, explaining 7% of behavioural intentions. Thus, although past behaviour and RS interacted to impact on intended non-condom use, the ANOVA test demonstrated that past behaviour provided the strongest impact.

Regression analyses revealed that past behaviour interacted with attitudes in the prediction of intended non-condom use. In contexts that facilitated habit formation, past non-condom use was a strong predictor and attitudes were relatively weak. In contexts that did not facilitate habit formation, past behaviour was a weaker predictor than attitudes. Specifically, regression analyses for participants not in exclusive relationships (relationship context unstable) revealed that the strongest predictor of intended non-condom use were attitudes, and past non-condom use was the second strongest predictor. By contrast, regression analyses for participants in exclusive relationships (relationship context stable) identified past non-condom use as the strongest predictor of intended non-condom use; attitudes followed as the second strongest predictor. Participants in exclusive relationships operated from stable contexts, which facilitated habit formation (the habit being diminished condom use). In such a context, past behaviour is a strong predictor and attitudes are weak. By contrast, single participants operated from an unstable context, wherein they had to assess each new partner or each new relationship afresh. In unstable

contexts, automatic responses (habits) are not enabled, but conscious cognitive processes are (e.g., attitudes).

ii. Effects of relationship status (RS).

The importance of RS in shaping safe or unsafe sex practices emerged as an important factor in Study 1. In Study 2, RS was expected to be one of the most significant variables in shaping the final decision of whether or not to use a condom. As a result, RS was manipulated both qualitatively and quantitatively.

The pervading finding in both quantitative and qualitative analyses was that RS relates to, and impacts upon non-condom use. As a rule, participants in exclusive relationships tended not to use condoms, as compared to participants in casual and no relationships. Moreover, quantitative analyses revealed that RS added a significant 5% to the prediction of intended non-condom use, over and beyond attitudes and subjective norms. Also, the moderating properties of RS were revealed in Study 2:

1. RS (exclusive versus casual versus single) moderated the attitudes - intended unprotected sex relationship. This meant that participants with positive attitudes toward unprotected sex intended not to use condoms, particularly if they were in an exclusive relationship. This effect was less pronounced for participants in casual relationships, and even less pronounced for single ones.

2. RS moderated the attitudes - past non-condom use path, suggesting that participants that favoured unprotected sex reported not having used condoms, particularly if they were in an exclusive relationship. This effect was less pronounced for participants in casual relationships, and barely existed for single ones.

3. RS moderated the norms - past non-condom use path. Participants reported more condom use when significant others approved of non-condom use. The social facilitation of past non-condom use was much more pronounced for participants in exclusive relationships, less pronounced for participants in casual relationships,

and very small for participants in no relationship. Even when significant others disapproved of non-condom use, past unprotected sex was high but only for those in exclusive relationships.

Thus, survey, interview and document analyses agreed that RS plays a crucial role in determining if condoms will be used. Yet, only interview and document data provided insights into the reasons *why* condom use depended on RS. Specifically, qualitative analyses revealed that:

1. All participants reported that unsafe sex, in the context of a long-term relationship, preserves and intensifies feelings of love, intimacy and commitment. By contrast, condom use was perceived as a symbol of emotional distance, detachment, and protection from the partner, a situation more relevant to casual/non-exclusive relationships. Often, the use of condoms within an exclusive relationship was regarded as offensive, as it hinted at infidelity. Moreover, participants viewed romantic feelings, experienced within the context of an exclusive relationship, as occurring naturally, in a spontaneous fashion. The pre-meditation and planning required in condom use was perceived as contradictory to true feelings of love.

2. Several participants reported that condoms reduced physical and psychological satisfaction. Diminished satisfaction was attributed to condom latex material, as well as to the experienced awkwardness of having to stop intercourse, put on the condom, and continue intercourse.

3. Another reason for not using condoms had to do with the perception that every new relationship is exclusive (serial monogamy). In this study, some of the participants assumed that every new partner was an exclusive partner; often exclusivity was decided upon meeting the partner, that is, before dating. For other participants, RS interacted with condom use in a more gradual way; early in the relationship (relationship status uncertain), individuals tended to use condoms consistently. As the relationship progressed to exclusivity, condom use

decreased and, as soon as the relationship reached exclusive status, condom use stopped. These findings not only reveal the premium placed on romance and intimacy, but also reflect habit formation and habit repetition within similar contexts (Ouellette & Wood, 1998). Once people acquire the habit of not using condoms within the context of an exclusive relationship, they are likely to 'transfer' this habit to any other relationship which shares (some of) the attributes of their previous exclusive relationship.

4. Participants viewed condoms as reminders of disease and not of safety. Condoms seemed to evoke images of STDs, instead of images of a body free of STDs. Thus, participants had learned to associate condom use primarily with danger and risk; they also associated people who used condoms with sexual health risks. Consequently, participants, perhaps non-consciously at times, rejected condoms as a means of rejecting the risk posed by a potential STD.

5. Most British participants reported using the pill as their main contraceptive method, within the context of an exclusive relationship. Participants understood safe sex to mean contraception; that is, pregnancy prevention. Sex was still regarded as 'safe' when condoms were not used; dangers posed by non-condom use were not an issue within the contexts of a trusting, exclusive relationship.

6. Finally, participants regarded certain sexual practices as risk-free and, as a result, did not use condoms. In particular, oral sex did not pose a STD or pregnancy threat for several participants and thus condoms were not used for that activity.

What seems to underlie all possible reasons for unprotected sex is the belief that condoms hinder the realization of love, trust, and intimacy within a relationship. Unless this deeply engrained notion is challenged, safe-sex campaigns may continue to have a mediocre success in increasing condom use.

iii. Cultural Influences.

In this study, the ethnic factor of culture is considered. Ethnicity allows the study of the overall social context of sexual relationships and relevant mores and values, as they are transmitted through generations. Quantitative analyses established ethnic differences in sexual risk taking, whilst qualitative analyses pointed to why or how these occurred.

Culture was significantly associated with past non-condom use, with British participants reporting higher non-condom use than Greek participants. Also, intentions to engage in unprotected sex were stronger for British participants, but the difference was not statistically significant. Qualitative analyses shed light into the reasons why British participants engaged in more unprotected sex. Specifically, British students preferred using the pill. For example, seven out of the nine British interviewees stated that they or their partners used the contraceptive pill instead of condoms especially (but not exclusively) in the context of a 'serious' relationship. By contrast, only one Greek female student reported using the pill. Moreover, half of the British students who voluntarily offered a written document reported using the pill and strongly argued for their contraceptive choice as being safe. Actually, participants took a defensive/aggressive stance regarding their using the pill, and some were offended by the possibility of having to use a condom when in an exclusive relationship. All of the British participants who wrote that they used the pill were female and in long-term relationships which they perceived to be exclusive; pill intake started early in adolescence. No Greek participant offered a document explaining that they used contraceptive pills instead of condoms. Although the possibility exists that at least some of the 104 Greek participants who took part in the questionnaire survey used pills, none felt the need to write down this choice and defend it in a passionate manner.

Qualitative data, thus, suggested that there is a different attitude toward contraceptive choices in the two countries; a substantially more

positive attitude towards the contraceptive pill exists in the UK as compared to Greece. Teenage girls in Britain regard taking the pill as a legitimate personal choice and, in general, find no serious difficulty in getting pill prescriptions. In Greece, the situation is quite different; teenage girls do not assume taking the pill to be a simple choice, as they have to undergo an extensive gynaecological exam and hormonal testing prior to prescription. These procedures are expensive and some may find them unpleasant, physically. Also, it is not uncommon that teenage girls would rather not embark into conversations with their parents regarding taking the pill as this would involve disclosing details of their private lives. As a result, in Greece, taking the pill may be viewed more as a hassle than 'just' another contraceptive choice for girls in adolescence.

As explicated in Chapter 7, the basis and responsibility for these cultural differences in contraception lie in governmental decisions regarding medical practices. If the medical system of a country facilitates pill prescription then pills will be used, often at the expense of condoms. Under these circumstances, the medical system indirectly instils the belief that pills are an appropriate choice, at least as appropriate as condoms. Thus, viewed from a larger socio-political perspective, it is not surprising that British participants reported more non-condom use than their Greek counterparts.

As hypothesized, culture was able to predict non-condom use. However, culture made no significant increment in the predictive ability of the TRA variables.

Contrary to hypotheses, culture was not associated with TP. There were no differences in present TP or future TP mean scores for British and Greek participants. This finding is partially inconsistent with theoretical approaches to temporal orientations (e.g., Hall & Hall, 1999; Levine, West, & Reis, 1980; Gonzalez & Zimbardo, 1985), which argue that people from different cultures, such as the North European and the Mediterranean, have different temporal orientations. According to postulates of temporal orientation, British participants would be

expected to be more future-oriented as compared to their Greek counterparts. Nevertheless, university undergraduates are a unique population. On the one hand, it could be argued that undergraduates ought to be more future-oriented, regardless of culture, due to having to plan for upcoming exams and project deadlines. On the other hand, it has been found that different kinds of jobs represent different types of TPs and undergraduates are predominately present-oriented (Gonzales & Zimbardo, 1985). Thus, it may be that university undergraduates are more present-oriented, regardless of culture. The results of both studies in this thesis indicate the latter position; generally, participants scored higher on the present TP scale than on the future TP scale.

Investigations were also conducted regarding possible cultural differences in participants' attributions to people who, as a habit, carry condoms with them. No significant differences were found; most Greek and British participants (63%) viewed favourably those who habitually have condoms with them, describing them as 'thoughtful', 'careful', and 'healthy'. Still, 25% of the participants gave mixed attributions, characterizing 'habitual condom carriers' as 'prone to one-night stands and prone to risks' as well as 'thoughtful, healthy, and careful'.

Cultural differences were also explored (and found) regarding the time participants needed to be in a relationship before considering it 'exclusive'. Qualitative and quantitative data converged to reveal that Greek participants needed more time to consider a relationship as exclusive, as compared to their British counterparts. For example, most British participants estimated that they needed weeks to consider a relationship as exclusive, whereas most Greek participants estimated that they needed months to consider a relationship as exclusive. Eight out of the nine British interviewees reported a swift attainment of exclusivity (there were interviewees who considered a relationship as exclusive from day one). Six out of eight Greek participants reported longer times towards attainment of exclusive status. These results, taken as a whole may reflect participants' preference for and engagement in serial monogamy; British participants seemed to favour

more than Greek participants this relationship pattern and perceived each new relationship as a 'serious and stable' one.

iii. Time Perspective (TP).

Although TP was not significantly associated with either intended or past non-condom use, it demonstrated predictive and moderating abilities. In particular, when all the predictors were assessed together, present-fatalistic TP provided a significant unique contribution to intended non-condom use variance. Furthermore, present-fatalistic TP significantly enhanced the predictive ability of the TRA, by 2%. Finally, fatalistic PTP moderated the attitudes-intended behaviour path, suggesting that participants high in fatalistic TP had stronger intentions to engage in unprotected sex, even if they had negative attitudes towards unprotected sex. In study 1, participants scored higher in the present TP scale. Study 2 differentiated between the two types of present TP (hedonistic versus fatalistic), and revealed that, although both Greek and British participants were predominately hedonists, only fatalistic PTP played a statistically significant role in the prediction of intended non-condom use. This finding is in line with previous data. For example, Hutton et al. (1999) found that female prisoners who scored high on the present-fatalistic TP scale were significantly more likely to engage in high-risk HIV activities, such as having sex when high on drugs or alcohol, and sharing needles. Zimbardo and Boyd (1999) conducted in-depth interviews with psychology undergraduates who scored high on the present-fatalistic scale. These students were more likely (than students with other TPs) to have many sexual partners and not likely to practice safe-sex.

At a glance, it may be puzzling why university students score high on the present-fatalistic scale; after all, they are intelligent young adults who spent most of their time in an environment that fosters self-worth, mental growth, and efficacy. Scoring high on items such as "often luck pays off better than hard work", "you can't really plan for the future because things change so much", and "my life path is controlled by

forces I cannot influence", may seem incompatible with university mentality, which is based on planning, studying, and learning that hard work brings success. However, this "puzzle" is not difficult to comprehend, considering that fatalistic PTP is closely related to low income, young age, and being male. According to Gonzales and Zimbardo (1985) fatalistic TP is "...at its strongest among men with the lowest incomes" (p. 233). The same report stated that students, semi-skilled and unskilled workers are the least future-oriented occupations. Indeed, the university years are characterized by instability and financial insecurity.

Undergraduates tend to be uncertain of their future occupational and economic prospects, and this may be especially pronounced in men who are expected to be more career-oriented than women. This situation is exacerbated in cultures, such as the Greek, where youth unemployment rates are very high; according to EUROSTAT (The Statistical Office of the European Communities - 2005) data, Greek unemployment in people under 25 years of age was 26.9% in the year 2005. Although unemployment rates in the UK are low (4.9% in 2005), there is an anxiety-provoking situation of growing student loaning and debt in British undergraduates. Research has shown that British university students who have had high levels of debt are likely to view their economic situation as having a negative impact on their academic performance, health and social life; those students are also possible candidates for experiencing depression, anxiety, and stress (Scott & Lewis, 2002).

Unsurprisingly, a present-fatalistic TP strongly correlates with anxiety, aggression, and depression (Zimbardo & Boyd, 1999). Lennings (1994) views risk-taking activities as a way to avoid feelings of depression, and Allberg and Chu (1990) describe health-risk activities as depression in disguise. In this study too, men scored higher on the present-fatalistic scale, and had more favourable attitudes towards unprotected sex as compared to women, although gender was not related to intended and past non-condom use, per se. To conclude, it is

suggested here that a present TP and, in particular, a fatalistic PTP impacts on non-condom use. Being a fatalist presupposes a pessimistic mentality and depressive ideation/emotion. As a means of dealing with hopelessness and depression young undergraduates may take all sorts of risks, including non-condom use. If these young adults feel that they cannot control the outcomes of their behaviours, if they believe their lives to be predestined, then not using condoms becomes an acceptable behaviour; it is fate that decides for their health, not them.

Finally, two regression analyses revealed small yet significant predictive abilities of future TP on intended non-condom use. The sign of the relevant betas was negative, indicating a negative correlation between future TP and behavioural intentions. Thus, consistent with the theory of time perspective, participants high on future TP reported weak intentions to have unprotected sex. Nevertheless, it should be repeated here that future and present TP are independent psychological constructs and not opposite poles of a continuum. If future and present TP were opposite poles of a continuum, there would be no theoretical need for employing both future and present scales when attempting to predict sexual risk-taking. For example, people who score very high on the fatalistic PTP scale and report higher non-condom use are not expected to score very low on the future TP scale (although they would be expected to score *lower*). It is not unlikely that the same person will score high on the fatalistic PTP in relation to sexual risk-taking and, at the same time, score high on the future TP scale in relation to voting. In the current study, fatalistic PTP consistently accounted for more intended non-condom use than future TP; this result supports the Theory of Time Perspective postulates and reflects the independence of the two variables (Zimbardo & Boyd, 1999).

iv. TRA constructs and Moderated Effects.

Consistent with the TRA, attitudes were significantly associated with behavioural intentions, suggesting that participants with favourable attitudes towards non-condom use were also more likely to use condoms. Moreover, in standard multiple regression analyses, attitudes proved to be the second most powerful predictor of intended non-condom use after past behaviour influences.

As found in study 1, potential moderator interactions between the components of the TRA were investigated whilst taking into consideration TP, RS, culture and past behaviour. The interaction of attitudes and subjective norms predicted an additional 1% of intended non-condom use, over and above the TRA and the remaining variables. This interaction was almost significant (p = .07), suggesting a tendency that positive attitudes facilitated non-condom use, to the extent that significant others approved of non-condom use.

The interaction between attitudes and subjective norms provides some support to Eagly and Chaiken's (1993) argument for the possibility of moderator effects between the main variables of the TPB. Thus, the variables of the TPB may not just impact behavioural intentions independently, as the TPB suggests. Nevertheless, this result should be viewed tentatively due to the alpha level of .07. Although the interaction gave only a 1% increase in the explained variability, this effect can be taken into consideration due to the fact that field studies have less than 20% of the efficiency of laboratory/experimental designs for detecting moderator interactions (McClelland & Judd, 1993).

The regression analysis used to assess the moderation of TRA variables whilst taking into consideration TP, RS, culture and past behaviour, give a clear picture of the most powerful and significant predictors of non-condom use. Past behaviour came first in all three steps of the regression analysis, followed by attitudes, fatalistic PTP, culture and future TP.

Chapter 9
Overall Discussion of Studies 1 and 2

9.1. Theoretical / Methodological Implications

In agreement with earlier reports in the literature (see Chapter 2, pp 36-37), constructs of the TRA / TPB (especially attitudes) revealed significant associations with intended non-condom use, and were significant predictors of intended non-condom use. Thus, it is argued here that the TRA / TPB is a sound and coherent basis for sexual risk research.

Also in agreement with previous reports (see Chapter 2, pp 39-43), past non-condom use, overall, gave the strongest correlations with intended non-condom use, and was the strongest predictor of intended non-condom use.

When the data set was split for relationship context, results were further clarified. That is, the predictive ability of attitudes and past behaviour interacted as a function of relationship context. Stable contexts (i.e., long-term, exclusive relationships) reflected the influence of past non-condom use on intended non-condom use, whereas, unstable contexts (i.e., casual relationships, being single) reflected the influence of attitudes on intended non-condom use. Non-condom use was the dominant behaviour in exclusive relationships; partners had formed the 'habit' (either in a previous exclusive relationship or in the current one) of not using condoms and reported weak intentions for using them in the future. Similarly, participants who viewed each new relationship as exclusive (i.e., serial monogamy) also reported weak intentions to use condoms in the future. By contrast, participants in casual relationships, or singletons, were less influenced by 'old habits' and more by conscious thought; that is, their attitudes (i.e., positive versus negative) were stronger predictors of intended non-condom use. Thus, in accordance with previous findings (e.g., Ouellette & Wood, 1998) relationship context was found to be the important factor determining whether intended non-condom use was based on attitudes or past behaviour.

The results reported in this thesis indicate that the TRA / TPB is sufficient in explaining and predicting non-condom use only when the relationship context is unstable (e.g., casual relationship, being single). Unstable relationship contexts do not favour the development of habitual action, as the situation is re-assessed with each new partner. Consequently, in unstable relationship contexts, deliberate decision-making and, in particular, attitudes will shape safe-sex practices.

Yet, for stable relationships contexts (i.e., exclusive relationships), the TRA/ TPB is not sufficient to explain and predict intended non-condom use. In exclusive relationships, emphasis is given to trust and psychophysical proximity, which puts a premium on non-condom use. Sooner or later, in an exclusive relationship, non-condom use becomes a habit and, as such, it is easily transferred to other similar contexts (i.e., to the next exclusive relationship). Consequently, in exclusive relationships, the decision of whether to use condoms will be based more on past behaviour, rather than conscious deliberation/ attitudes.

Based on the above results, it is suggested that expanding the TRA / TPB with constructs related to the meaning of sex and relationships, would increase understanding of condom use. The constructs put forth in this thesis are RS and past behaviour.

Regarding methodological issues, this thesis demonstrated the effectiveness of using a mixed methods design (i.e., quantitative and qualitative methodologies) in revealing the intricacies involved in contraceptive behaviours.

However, published studies in Health Psychology tend to emphasize only one set factors in the investigation of sexual risk and only one methodological perspective. In particular, the dominant way of studying intended and actual sexual risk has been manipulating rational-cognitive variables (e.g., attitudes, self-efficacy and social norms), within a quantitative framework (i.e., transforming verbal reports into numbers and conducting statistical analyses). Studies conducted under this 'rational' perspective are well within the

mainstream of Health Psychology and appear more often in the 'prestigious' journals. A less dominant perspective investigates sexual risk-taking by employing subjective factors, such as personal meanings attributed by partners to condom use within different types of relationships. These studies typically do not transform data into numbers, and sophisticated statistical analyses are not conducted. Thus, up to today, the published literature in sexual risk reflects a polarity; on the one end of the pole stand the 'rational', 'objective' methodologies and results, whereas on the other end stand 'subjective' explorations of reported behaviours.

This study rejects the need for such a polarized view and argues for more comprehensive approaches in the study of sexual risk-taking. Research manipulating just one set of factors (e.g., only attitudes and norms, or only subjective meanings) is bound to be limited in terms of validity, reliability, and predictive value. Also, research conducted by employing only one type of methodology will leave out the benefits of the other type. For example, using only qualitative techniques will provide substantial depth but will leave out the precision and replicability offered in quantification. As a result, this thesis recognizes the limitations of each research perspective and argues for the use of mixed methodologies as a means of 'neutralizing' inherent biases amongst methodologies.

The aforementioned point regarding the usefulness of mixed methodologies in Health Psychology risk research reflects the philosophical stance favoured in this thesis. Working from a *Pragmatistic* (Rorty, 1982; Cherryholmes, 1992) and *Contextualistic* perspective (Pepper, 1966; Rosnow & Georgoudi, 1986), it is argued here that in order to understand a behaviour one must consider – via methodological and theoretical pluralism – the wider context in which this behaviour occurs. Human activity does not happen in a vacuum, but rather within contexts of time, space, culture, meanings and relationships. To elaborate, in this study, sexual risk was embedded within the wider socio-political context of medical decisions towards

contraception (the macro-level), as well as within the narrower social context of relationship status (the micro-level). Behaviour and behaviour change were not viewed as the result of haphazard external events, or as the result of volition and intentionality. Rather, behaviour and behaviour change consisted of a net of factors, some of which "...tend toward disorder and some toward order that may have come out of disorder, and turn into order again" (Rosnow & Georgoudi, 1986, p.15). Finally, this study reasoned that *context* is not only central to the understanding of sexual risk-taking, but its variations will also have an effect on this behaviour. Specifically, shifting from one relationship type to another will most probably have a differential effect on contraceptive behaviours. The same person may use condoms when single, but use the contraceptive pill when in an exclusive relationship. Therefore, a change of external context will bring about changes in behaviours and in the meanings of those behaviours.

Some aspects of human life, such as personal attitudes and intentions, remain fairly constant, whereas other aspects, such as relationship status and politics, can easily change. To adequately study a behaviour it is desirable that the investigator considers both the stable and unstable factors that define it. Such an approach may not result in a simple or economical model of human action but will most probably result into a realistic one.

Consequently, axioms of subjective utility (i.e., a subjective logical and consistent cost-benefit analysis of outcomes) are not adequate in describing how people decide and act in the health domain. Nevertheless, a premise of utility theories, namely, empirical research is usefully organized around a standard of good decision making, is espoused in this thesis. Yet, the approach offered here provides a richer descriptive and explanatory model of safe-sex decisions and sexual risk-taking.

9.2. Practical Implications

The current study suggests that the manipulation of attitudinal, cultural, and temporal factors can help develop safe-sex intervention programmes for British and Greek university students.

i. Past behaviour and attitudes.

As stated in the previous section, past behaviour and attitudes were found to be the strongest predictors of intended non-condom use and, moreover, the predictive ability of these constructs interacted in relation to relationship context. Thus, interventions emphasizing changing attitudes towards unprotected sex could be very effective; similar conclusions have been documented by a number of authors (e.g., Albarracin et al., 2001; Sutton et al., 1999). Attitudes are studied in psychology as a three-part system construct; they comprise an evaluative reaction toward something or someone, exhibited in one's beliefs, feelings, and inclinations to act (Breckler, 1984). Thus, successfully changing attitudes would mean manipulating their affective, cognitive and behavioural components.

To elaborate, a main belief held by participants in this study was that exclusivity justified non-condom use. A predominant emotional reaction from participants was fear and disgust of STDs, a fear which was objectified in the condom itself. The behavioural component of attitude reflects participants' past experience with condoms, which influences their inclination to act similarly in the future; some participants experienced reduced pleasure and increased emotional distance, whilst using condoms in the past, whilst others dealt with the friction of having to negotiate their use with their partner.

Thus, it is suggested that an intervention aiming at modifying young peoples' attitudes towards condom use would be quite successful if it targeted partners in intimate, exclusive relationships; individuals in casual relationships and those not dating seem to have a greater acceptance of condom use. Such an intervention could:

Challenge the notion that condoms destroy intimacy and trust, by portraying the suitability of condom use in exclusive relationships. It is argued here that a specific campaign would be less successful than the use of the visual media, in general. For example, married and exclusive partners could discuss safe-sex and condom use on popular TV series, on a daily basis. In such a way, not only do condoms become topics of intimate discussions, but they also promote intimacy per se. For example, Coleman and Ingham (1999) found that discussing condom use prior to intercourse, not only enabled more actual condom use, but it also rendered partners' concerns regarding negative consequences of condom use negotiation unfounded. Specifically, discussing condom use fostered feelings of content, relief and closeness between partners.

Eroticize condoms. Once again, television and the film industry can play an effective role by portraying condoms as an integral part of intercourse. For example, famous actors could use condoms in love-making scenes. Actors are role models and their behaviour is likely to be taken seriously, even copied. In one genre of filmmaking, gay pornography, condoms have been extensively used in erotic scenes. Thus, pornographic practices, which tap into notions of desire and fantasy, have been used to create sensual images of safe-sex for gay men. Warr (2001) suggested that incorporating condoms in gay pornography is the most useful starting point for successful safe-sex strategies. Regarding heterosexual relationships too, Loumakou, Kordoutis, & Sarafidou (2001) argued that eroticizing condom use is crucial as it may be the only way of introducing it into the sexual fantasies, or into the social representation of 'love'.

Disassociate condoms from AIDS, STDs, and the image of illness. It would be beneficial to emphasize use of condoms, as a contraceptive method because couples seem to be more concerned with pregnancy prevention than with STDs. Promoting condoms for contraception would also have the effect of controlling STDs.

Initiate and sustain behaviour. Only if condom use is put into a lot of practice, partners find it acceptable, and no negative consequences occur, will condom use become a habit. A substantial degree of habituation and automaticity in condom use would mean overriding disconcerting thoughts (e.g., condoms implying possible infidelity, lack of trust, distance, etc) which put pressure on the relationship itself. The aim is not thinking about it but acting upon it. Once partners start using condoms they would also start viewing them favourably. Nevertheless, actual behaviour initiation is assumed to be the trickiest part of any intervention aiming to promote a health behaviour. Thus, according to Gollwitzer (1993), an intervention may need to include the formulation of a specific and explicit plan to initiate the desired behaviour. Research findings claim that, once a desired behaviour is initiated and repeated in a stable and supportive environment without the occurrence of negative consequences, then this behaviour is most likely to turn into a habit (Ouellette & Wood, 1998).

To conclude, an effective safe-sex intervention could attack unfavourable attitudes in a two-fold way: (a) by including a specific programme aiming at initiating condom use (i.e., eliciting a specific action plan); (b) by inserting images and discourses of condom use into the visual media, on an everyday basis. Eventually, the individual could come to perceive condoms as a normal, standard part of everyday sexual life, and not in isolation or as a forced means of avoiding disease.

ii. Time perspective (TP) in intervention.

Present-fatalistic TP significantly moderated the attitude – intended/past behaviour relationship, and it significantly enhanced the predictive ability of the TRA, by 2%. The magnitude of this effect was not strong enough to suggest theoretically adapting the TRA / TPB for temporal factors, but the effect indicates that TP could be a beneficial addition to intervention programmes.

Most studies linking TP with health and risk activities are correlational in nature and provide only vague ideas for interventions based on TP.

Hall and Fong (2003) were the first to test experimentally the effects of a brief TP intervention for increasing physical exercise, against a standard goal-setting control intervention and a no-treatment control, in a group of University undergraduates. Time perspective participants reported higher levels of physical activity in relation to the two other groups at post-intervention, and in relation to the no-treatment group at a 10-week follow-up. Two basic premises of building TP health interventions were identified (a) pointing out to people the future benefits of a health-related activity; (b) explicitly building psychological connections linking the individual's present health behaviour to future health outcomes. Hall and Fong's intervention consisted of education, as well as a number of activities designed to make participants think of the long-term consequences of their present physical exercise; emphasis was placed on keeping those thoughts active during physical activity (or when making decisions about physical activity).

The above TP intervention assumed that most health-protective activities (e.g., eating healthily, exercising, using contraception, etc) require that the individual endure at least some minor short-term inconvenience (e.g. pain from initiating exercise, financial costs) in order to experience the favourable long-term benefits (e.g., better physical and emotional well-being). Also a TP intervention would assume that the short-term costs and benefits will be judged as less important than the future benefits.

Similar to exercise, condom use requires that the individual experience some short-term costs and benefits. Such costs would include negotiating condom use with a partner (which in itself can introduce further challenges to the relationship), purchasing condoms, having to interrupt intercourse and, perhaps, reduced pleasure and experiencing subjective discomfort from the latex

condom material. Immediate benefits of condom use would be protection against pregnancy and STDs and reduced anxiety over these issues. Long-term benefits also include pregnancy and STD protection, as well as the psychological and physical benefits of enjoying a state of sexual health.

However, there are several differences between condom use and exercising. Specifically, the distinction between short-term and long-term costs and benefits is not clear-cut. The short-term costs will not diminish in the future and the short-term benefits are the same as long-term benefits. But more significantly, costs and benefits of using condoms will eventually be judged subjectively. For example, some people would not regard pregnancy and/or STD protection as a benefit; as mentioned earlier in this study the desire for emotional and physical intimacy often outweighs STD and HIV viral risks (Rhodes & Cusick, 2000; 2002).

Based on the above, it is concluded that a TP intervention aiming to increasing condom use would: (a) be successful in enlightening people about their temporal orientations and how a present TP could put them at-risk for contracting STDs; (b) be successful in pointing out to people the future benefits of condom use, as opposed to present costs; (c) be helpful in teaching people how to widen their time orientation towards the future; (d) be marginally successful in persuading *everyone* that the benefits of condom use are more important than the costs.

iii. Cultural Issues in intervention.

As revealed from qualitative analyses, British participants (but not Greek participants) favoured using the contraceptive pill over the condom. It was argued that the British medical system facilitates the use of the pill, sometimes at the expense of condom use. This study is not a political or medical one and the knowledge regarding how medical systems really work, in either country, is limited. No expertise is claimed regarding governmental socio-political choices in

contraception. Nevertheless, it is suggested here that no safe-sex intervention can be effective unless governmental decisions regarding contraception support it, directly and indirectly. An issue to be considered is, why should young people accept safe-sex campaign messages promoting condom use when, at the same time, they can easily be prescribed the pill. Taking into consideration the general dislike of condoms in exclusive relationships, as well as the ease of obtaining the pill, it is not surprising that young couples would choose the pill over the condom and, as a result, put themselves at risk for contracting STDs. Therefore, it is suggested that the medical system promotes condom use as the number one choice of contraception in adolescents and young adults. This would have the dual function of protecting from both pregnancy and STDs. Pills could be promoted as a second choice, relevant mostly to adults.

iv. Public policy and practice.

Results of Study 2 suggested that British participants' preference for using the contraceptive pill over the condom may be influenced by political and governmental decisions relating to medical practices. Simply stated, the British medical system seems to facilitate pill intake by not posing strict eligibility criteria for pill prescription. As a result, pills are used at the expense of condoms, a situation which leads to high rates of STDs.

These results may have implications for social/ public health policy. Specifically, policy makers and related officials could focus efforts on promoting condoms as the 'number 1' contraceptive choice for young people, which would have the dual effect of pregnancy and STD protection.

One way of making condoms the first contraceptive choice would be enforcing clear and stringent eligibility criteria for pill intake; thereby rendering the pill as harder to get. Such criteria could be testing for STDs in both partner, as well as requiring a cervical examination (e.g., pap smear), high-blood pressure and hormonal test.

For example, the existence of STDs, blot-clotting tendencies and cervical abnormalities exclude women from being suitable candidates for the contraceptive pill. The application of such eligibility criteria would mean that the health professionals responsible for prescribing the pill are adequately educated in relevant issues (i.e., advantages and disadvantages of pill intake, side-effects of pills, and pill typology). All this information should be clearly explained to those requiring the pill. Additional staff may be required for the physical examinations mentioned above. Finally, it is suggested that pills are paid for, whilst condoms are made cheaper at stores, and obtained free from many places (e.g., universities, schools, pubs, hotels, restrooms, etc.). An effort to make condoms cheaper has been put forth by the British government; in particular, Chancellor Gordon Brown announced on July 2006 the intention to reduce Value Added Tax from 17.5% to 5% on all contraceptive products found in stores (Durex Report, 2006).

It is argued here that once pills are not easily obtained, this might have the effect of condom use increase with a resulting decrease in STD rates.

9.3. Limitations

One potential limitation of the study was the cross-sectional nature of the design. As always, cross-sectional data regarding predicting actual behaviour should be interpreted with caution. Nevertheless, studies that have included a follow-up measure of condom use have shown that intended condom use is a key predictor of actual condom use. Specifically, a meta-analysis by Sheeran and Orbell (1998) concerning the intention-future behaviour consistency of condom use revealed a considerable sample-weighted average correlation of r = .44. Similar results were found in another meta-analysis concerning the intention-behaviour relationship of a wide range of behaviours (Randall & Wolff, 1994). Thus, intentions have proved to be fairly accurate predictors of future behaviours.

Three more facets of this research provide additional reassurance regarding the validity and predictive value of the results. Firstly, the two studies conducted here did not yield contradictory results. Secondly, qualitative and quantitative data converged; qualitative data confirmed and deepened statistical results. Thirdly, behavioural intentions were measured by three items showing high internal consistency (Cronbach alpha of .92), thus enhancing the predictive value of the model.

Regarding past non-condom use, the possibility always exists that recollection may have not been completely accurate, due to the retrospective nature of the inquiry. Memory problems may affect the reliability and accuracy of a study. Efforts were made to enable participants' memory; questions had a specific recall period, as well as an optimal period for reliable recall. Specifically, participants reported past condom use frequency for the 'last six months'. This time frame was chosen on the basis of previous studies; in a meta-analysis, Sheeran and Abraham (1994) found six-month recall periods to be the most reliable in sexual risk research. In addition, reliability was enhanced via the use of two past non-condom use measures.

Another problem, which may be relevant to sexual-risk research, is self-presentation bias. Some studies have shown that university research participants may represent their sexual histories and intentions in a way to appear less risky, and thus, 'save face' (Scandell, Klinkenberg, Hawkes & Spriggs, 2003). Yet, other studies which specifically examined self-response bias in sexuality research found much less bias than expected (e.g., Catania, McDermott, & Pollack, 1986). As a check of self-presentation bias, participants were assured of the confidentiality of their reports. Moreover, participants' reports were anonymous in both studies reported in this thesis. Research has suggested that self-presentation concerns may only be important in non-anonymous situations (Scandell, Klinkenberg, Hawkes & Spriggs, 2003).

Finally, a substantial proportion of participants admitted to having (and intending to have) unsafe sex, indicating a degree of honesty in answers.

9.4. Future Research

Theoretical concerns.

Firstly, it is proposed that future research could be aimed at estimating optimal ways of studying sexual risk-taking. In particular, the issue of self-presentation bias could be further elaborated. As noted in the previous section, a number of authors (e.g., Gebhardt, Kuyper, & Greunsven, 2003; Sheeran & Abraham, 1994) have commented on the possibility that participants' desire to 'save face' and report 'normal' sexual lives may lead to dishonest answers. Some studies have found that anonymous questionnaires are less threatening and ensure more honesty than face-to-face interviews (Catania, McDermott, & Pollack, 1986; Scandell, Klinkenberg, Hawkes, & Spriggs, 2003). More research is needed to develop ways of facilitating and ensuring true self-reports of risky sexual behaviour in surveys and interviews.

Secondly, the retrospective nature of self-reports requires that participants remember facets of their past life. At times, memory will not be accurate. Investigators often seem to choose recall times based on their intuition, as there has been a paucity of research relevant to the optimal time recall period of sexual behaviour and condom use (Sheeran & Abraham, 1994). Thus, it is suggested that future research be aimed at establishing optimal recall times for past sexual risk reports.

Thirdly, it is concluded that it would be fruitful to investigate time perspective in more detail. TP, as a non-conscious construct, can affect behaviour in pervasive, although not always obvious, ways. This study revealed associations between TP and non-condom use, as well as some predictive and moderated effects. However, it is felt that the

predictive ability of TP on sexual risk taking was not fully uncovered in this study and, thus, the need exists for further research.

Also, it would be particularly helpful to further examine how context and contextual change affects condom use. Specifically, the literature reveals that the investigation of contextual influences on sexual risk (and on other health risks) is downplayed. Moreover, with the exception of a handful of articles (e.g. Ouellette & Wood, 1998), there seems to be a gap in the studies which specifically investigate how change of context affects the contraceptive behaviours of the same person. In relation to the wider social context, more research needs to be conducted regarding sexual risk-taking in different cultures, as well as in different sub-cultures.

Additionally, the results of the current study could be replicated with other populations, such as homosexual participants, participants already affected by STDs, and participants from different age groups.

Finally, efforts could be made towards developing comprehensive and true to life theoretical models of conceptualizing sexual risk-taking. As has been demonstrated in this thesis, current Health Psychology models based on premeditation and rationality have shown limited success in conceptualizing and predicting sexual risk. Contrary to other health-risk activities (such as not wearing a sunscreen, not exercising enough, not wearing a seatbelt, etc), the decision to use condoms may be based on either conscious deliberation, or automatic cognitive processing, or both. As a result, there is the dual need to: (a) develop further the social cognition models, emphasizing on the cognitions that enable the translation of intentions into actions; (b) develop automatic processing models whilst identifying the conditions under which sexual risk-taking is determined by automatic and/or deliberative processes.

Applied concerns.

More research is needed towards building successful interventions aiming to increasing condom use. This and other studies (e.g., Warr,

2001) have demonstrated that an effective way of changing young peoples' unfavourable attitudes towards condom use is via eroticizing condoms. Therefore, investigations could be aimed at estimating successful ways of making condoms erotic for the general population. As mentioned earlier in this chapter, condoms are now extensively used in gay pornography, which means that they are being inserted in the sphere of sexual fantasy. Similarly, research could be conducted regarding how to incorporate condoms in heterosexual pornography, and in all kinds of films with erotic scenes. Only experimental studies can estimate the optimal ways of eroticizing condoms in adult gay and heterosexual filmography.

Finally, it is proposed that inter-disciplinary research between medical professions and health psychologists be conducted in order to develop a new contraceptive device, which individuals will actually enjoy physically and emotionally. Psychological research has revealed reasons why condoms are disliked; medical research can be guided by these psychological findings to develop a method that would protect from STDs and pregnancy, but at the same time be acceptable by the user.

9.5. Epilogue

The most significant finding of this thesis is considered to be the importance of past behaviour and contextual influences on intended and future unprotected sex. Thus, incorporating the constructs of past behaviour and relationship context into the TRA/TPB can increase the understanding of sexual risk-taking, as well as the predictive ability of the model. A graphical (and simplified) depiction of the adapted TRA/TPB is next provided.

TRA / TPB FOR UNSTABLE RELATIONSHIP CONTEXTS
(Non-Exclusive Relationships)

subjective
norms

past
sexual risk   ⟶   attitudes   ⟶   intended
sexual risk

PBC
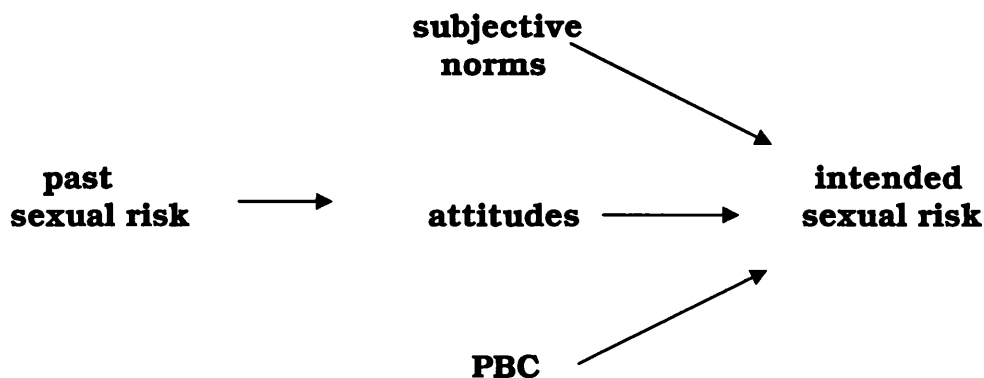
TRA / TPB FOR STABLE RELATIONSHIP CONTEXTS
(Exclusive Relationships)

subjective
norms

attitudes   ⟶   intended
sexual risk

PBC
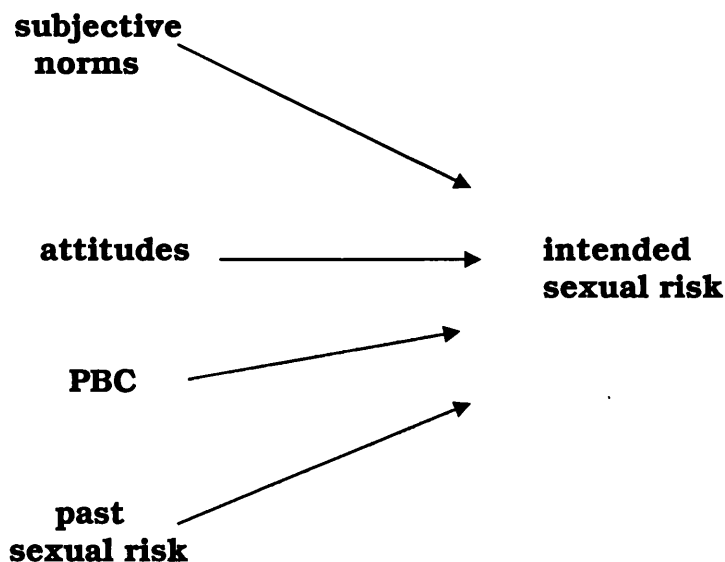
past
sexual risk

The figures show that past sexual behaviour will differentially influence intended sexual behaviour, depending on relationship context. In unstable relationship contexts (i.e., non-exclusive relationship, casual partners) sexual habits are not easily established

due to the newness of the situation, the partner, and the behaviour per se. In this case, past sexual behaviour will not influence behaviour directly and safe-sex decisions are more likely to be based on logical reasoning. Thus, in unstable relationship contexts, past sexual practices will combine with the constructs of the TRA/TPB to predict intended sexual practices. Results of the current study suggest that in unstable relationship contexts past behaviour combines best with attitudes to predict intended sexual risk.

By contrast, in stable relationship contexts (i.e., exclusive relationships), where behaviours are repeated in a supportive environment, past behaviour will directly influence decisions related to condom use. Here, the emphasis given on trust and closeness favours initiation and habituation of non-condom use. Once non-condom use becomes a habitual action in a stable relationship context, then it is likely to be 'transferred' without much deliberation to the next relationship which will be perceived as exclusive.

PostScript

The condom is a very old device; around 1000 BC, the ancient Egyptians used linen sheaths for protection against sex-related diseases. The first condoms were physically found in about 1640, in Dudley Castle, UK, and they were made from intestines of animals and fish (http://www.avert.org).

Alternatives to the traditional condom are beginning to emerge, based on advances in technology. An example of a new device is shown in the picture below.

Picture 10.1.: "MM - Nanometer-silver Cryptomorphic Condom".

This 'condom-in-a-can' is based on nanometer and physical tiny foaming technologies, and is supposed to be easy to apply, to prevent STDs and to lubricate. The condom, manufactured by a company in south China's Guangdong Province, has won approval from the

province's drug administration and is now available in drugstores in the country. The picture of this condom was acquired from the website of the newspaper: http://www.chinadaily.com.cn/english/doc/2005-11/21/content_496670.htm. The author of the article was unknown.

Production and promotion of such devices may reflect increasing public dislike towards the traditional condom, as suggested in the psychological literature, as well as the need for a change in safe-sex practices. It is likely that such a development will generate further medical and psychological research regarding sexual risk and condom use.

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Note.The following studies were written and published in Greek. An unofficial translation is provided here to aid readers of this thesis.

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Internet Sites Visited for Information

www.avert.org
www.chinadaily.com.cn
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Appendices

Appendix A (Materials of Study 1)

Measures Used in Study 1

The format of all materials presented in the appendices is the format that participants saw, slightly compressed in size to fit thesis specifications.

Theory of planned behaviour, relationship status and demographic items

Dear Participant,

Please, bear in mind that this is a non-judgmental, standardized questionnaire, used extensively in Social and Health Psychology research. You will be asked questions regarding Unprotected Sexual Activity.

DEFINITION OF "UNPROTECTED SEXUAL ACTIVITY": Any type of sexual activity (e.g., oral, vaginal, anal sex) without the use of a *condom.* Other forms of contraception are irrelevant to this study.

1. **In the course of the *last* 6 months how often did you have unprotected sex?** *(please tick)*

   Every time I had sex _____

   Most of the times I had sex _____

   About half of the times I had sex _____

   Less than half of the times I had sex _____

   Never _____

2. **In the course of the *last* 6 months I had unprotected sex.** *(please circle)*

1	2	3	4	5
Always did	Most of the times	Can't say/ no opinion	A few times	Never did

3. I intend to have unprotected sex in the *following* 6 months.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

4. I plan to have unprotected sex in the following 6 months.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

5. I would like to have unprotected sex in the following 6 months.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

6. Having unprotected sex is:

1	2	3	4	5
Enjoyable	Somewhat enjoyable	Can't say/ No opinion	Somewhat unenjoyable	Unenjoyable

1	2	3	4	5
Pleasant	Somewhat pleasant	Can't say/ No opinion	Somewhat unpleasant	Unpleasant

1	2	3	4	5
Good	Rather good	Can't say/ No opinion	Rather bad	Bad

1	2	3	4	5
Beneficial	Somewhat beneficial	Can't say/ No opinion	Somewhat harmful	Harmful

1	2	3	4	5
Wise	Somewhat wise	Can't say/ No opinion	Somewhat foolish	Foolish

7. The people in my life whose opinions I value would:

1	2	3	4	5
Strongly approve	Approve	Neither approve/ Nor disapprove	Disapprove	Strongly disapprove

of my having unprotected sex in the next 6 months.

8. Most people who are important to me have unprotected sex.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

9. Whether I have unprotected sex in the next 6 months, is *entirely* up to me.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

10. How much control do you believe you have over having or not having unprotected sex, in the next 6 months?

1	2	3	4	5
Complete control	Some control	Can't say/ No opinion	Hardly any control	No control

11. For me, to use a condom, in the next 6 months, is:

1	2	3	4	5
Very Easy	Easy	Can't say/ No opinion	Difficult	Very Difficult

12. I am confident that I could use a condom, if I wanted to, in the next 6 months.

1	2	3	4	5
Strongly agree	Agree	Can't say/ No opinion	Disagree	Strongly disagree

13. I am currently in:
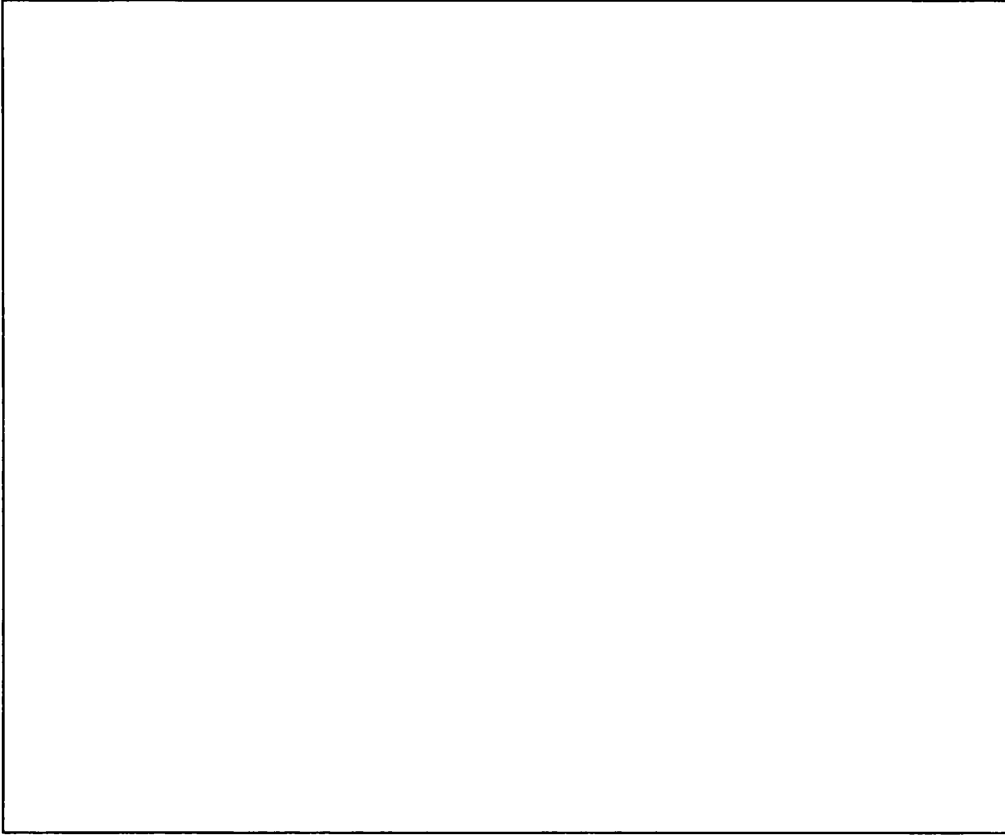
1	2	3
An exclusive relationship	A casual relationship	No relationship

14. I am:

1	2
Male	Female

15. Age :

Please, feel free to write in the space below any comments regarding this questionnaire and your experience as a participant in this study.

Theory of planned behaviour, relationship status and demographic items (Greek)

Αγαπητοί Συμμετέχοντες,

Το ερωτηματολόγιο που ακολουθεί χρησημοποιείται στην Ψυχολογία Υγείας για ερευνητικούς σκοπούς.

Θα χρειαστεί να απαντήσετε ερωτήσεις που αφορούν στη χρήση προφυλακτικού κατά την ερωτική επαφή.

Με τον όρο «Αποκλειστική σχέση» εννοούμε τον συναισθηματικό και σεξουαλικό σύνδεσμο μεταξύ δύο, και μόνο, ανθρώπων.

---

1. Κατά την διάρκεια των προηγούμενων 6 μηνών, πόσο συχνά έκανες σεξ χωρίς προφυλακτικό;

Κάθε φορά που έκανα σεξ ____

Τις περισσότερες φορές που έκανα σεξ ____

Περίπου τις μισές φορές που έκανα σεξ ____

Λιγότερο από τις μισές φορές που έκανα σεξ ____

Ποτέ ____

2. Κατά τη διάρκεια των προηγούμενων 6 μηνών, πόσες φορές έκανες σεξ χωρίς προφυλακτικό;

1	2	3	4	5
Όλες τις φορές	Τις περισσότερες φορές	Δεν ξέρω/ Δεν απαντώ	Λίγες φορές	Καμμία φορά

3. Σκοπεύω να κάνω σεξ χωρίς προφυλακτικό, μέσα στους επόμενους 6 μήνες.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

4. Σχεδιάζω να κάνω σεξ χωρίς προφυλακτικό, μέσα στους επόμενους 6 μήνες.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

5. Θα ήθελα να κάνω σεξ χωρίς προφυλακτικό, τους επόμενους 6 μήνες.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

6. Το να κάνω σεξ χωρίς προφυλακτικό, τους επόμενους 6 μήνες, είναι:

1	2	3	4	5
Ευχάριστο	Σχετικά ευχάριστο	Δεν ξέρω/ Δεν απαντώ	Σχετικά Δυσάρεστο	Δυσάρεστο

1	2	3	4	5
Απολαυστικό	Σχετικά απολαυστικό	Δεν ξέρω/ Δεν απαντώ	Σχετικά μη απολαυστικό	Μη απολαυστικό

1	2	3	4	5
Σωστό	Σχετικά σωστό	Δεν ξέρω/ Δεν απαντώ	Σχετικά λάθος	Λάθος

1	2	3	4	5
Ωφέλιμο	Σχετικά ωφέλιμο	Δεν ξέρω/ Δεν απαντώ	Σχετικά βλαβερό	Βλαβερό

1	2	3	4	5
Σοφό	Σχετικά σοφό	Δεν ξέρω/ Δεν απαντώ	Σχετικά ανόητο	Ανόητο

7. Οι άνθρωποι που είναι σημαντικοί για μένα θα επικροτούσαν εάν έκανα σεξ χωρίς προφυλακτικό.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

8. Οι περισσότεροι άνθρωποι που είναι σημαντικοί για μένα κάνουν σεξ χωρίς προφυλακτικό.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

9. Το αν θα κάνω σεξ χωρίς προφυλακτικό εξαρτάται απόλυτα από μένα.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

10. Είναι στο χέρι μου το εάν θα κάνω σεξ χωρίς προφυλακτικό.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

11. Θα ήθελα να χρησιμοποιήσω προφυλακτικό όταν θα κάνω σεξ, αλλά δεν ξέρω εάν τελικά θα το χρησιμοποιήσω.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

12. Το να χρησιμοποιήσω προφυλακτικό είναι:

1	2	3	4	5
Πολύ Εύκολο	Εύκολο	Δεν ξέρω/ Δεν απαντώ	Δύσκολο	Πολύ δύσκολο

13. Έχω:

1	2	3
Αποκλειστική Σχέση	Μή αποκλειστική Σχέση/ Ευκαιριακές Σχέσεις	Καμία Σχέση/ Σεξουαλικά μή ενεργός(ή)

14. Είμαι:

1	2
Άνδρας	Γυναίκα

15. Ηλικία:

Εάν θέλετε, γράψτε παρακάτω τις παρατηρήσεις σας σχετικά με τα ερωτηματολόγια που μόλις συμπληρώσατε, και προσθέσατε ό,τι κρίνετε αναγκαίο. Οι προσωπικές σας απόψεις σας είναι πολύτιμες.

Zimbardo Time perspective Inventory – Short Form

In response to the following statements, please answer the question:

How characteristic or true is this of you?

Circle a number from this scale:

1	2	3	4	5
Very characteristic	*characteristic*	*neutral*	*uncharacteristic*	*very uncharacteristic*

1. I believe that a person's day should be planned ahead each morning.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

2. Thinking about the future is pleasant for me.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

3. I feel that it's more important to enjoy what you are doing now, than to get work done on time.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

4. It upsets me to be late at appointments.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

5. It seems that my future plans are pretty well laid out.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

6. I do not do things that will be good for me if they do not feel good now.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

7. I get drunk at parties.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

8. I make lists of things to do.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

9. If I don't get done on time, I don't worry about it.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

10. I get irritated at people who keep me waiting when we've agreed to meet at a given time.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

11. I do things impulsively, making decisions on the spur of the moment.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

12. I believe that getting together with friend to party is one of life's important pleasures.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

13. I complete projects on time by making steady progress.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

14. Meeting tomorrow's deadlines and doing other necessary work comes before tonight's play.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

15. I like my close friendships to be passionate.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

16. I try to live one day at a time.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

17. When I want to achieve something, I set goals and consider specific means of reaching these goals.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

18. I am able to resist temptations when I know there is work to be done.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

19. Ideally, I would live each day as if it were my last.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

20. I take risks to put excitement in my life.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

Zimbardo Time Perspective Inventory - Short form (Greek)

Πόσο αληθινές (ή χαρακτηριστικές) είναι οι παρακάτω δηλώσεις για σένα?

Κύκλωσε την πιο αληθινή απάντηση για σένα (αυτή που σε χαρακτηρίζει καλύτερα), χρησιμοποιώντας την παρακάτω κλίμακα:

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

---

1. Πιστεύω ότι πρέπει να προγραμματίζω την ημέρα μου κάθε πρωί.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

2. Είναι ευχάριστο για μένα να σκέφτομαι το μέλλον.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

3. Πιστεύω ότι είναι πιο σημαντικό να ευχαριστιέμαι τη στιγμή, παρά να τελειώνω τις δουλειές μου στην ώρα τους.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

4. Εκνευρίζομαι όταν καθυστερώ στα ραντεβού μου.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

5. Πιστεύω ότι έχω σχεδιάσει αρκετά καλά το μέλλον μου.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

6. Δεν κάνω πράγματα που θα με ωφελήσουν στο μέλλον, εάν δεν με ωφελούν τη στιγμή που τα κάνω.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

7. Μεθώ στα πάρτυ.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

8. Φτιάχνω λίστες για τα πράγματα που πρέπει να κάνω.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

9. Δεν αναστατώνομαι όταν δεν τελειώνω τις δουλειές μου στην ώρα τους.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

10. Εκνευρίζομαι όταν με στήνουνε στα ραντεβού.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

11. Κάνω αυθόρμητα πράγματα, παίρνω ξαφνικές αποφάσεις.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

12. Πιστεύω ότι το να μαζευόμαστε φίλοι και να διασκεδάζουμε είναι από τις σημαντικές απολαύσεις της ζωής.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

13. Ολοκληρώνω τις εργασίες μου κάνοντας σταθερή πρόοδο.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

14. Ακόμα και αν θα μπορούσα να βγω σήμερα, θα επέλεγα πρώτα να τελειώσω τις υποχρεώσεις που έχω για αύριο.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

15. Μου αρέσει να έχω συναισθηματικά έντονες φιλίες.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

16. Προσπαθώ να ζω το σήμερα χωρίς να αγχώνομαι για το αύριο.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

17. Όταν θέλω να πετύχω κάτι, θέτω συγκεκριμένους στόχους και σκέφτομαι με ποιούς τρόπους θα μπορούσα να πετύχω αυτούς τους στόχους.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

18. Μπορώ να αντιστέκομαι σε πειρασμούς όταν έχω δουλειές να κάνω.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

19. Το ιδανικό θα ήταν να μπορούσα να ζω την κάθε μου μέρα σαν να ήταν η τελευταία.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

20. Παίρνω ρίσκα για να κάνω τη ζωή μου συναρπαστική.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

Informed Consent Sheet

RESEARCH STUDY REGARDING YOUNG PEOPLES' ATTITUDES TOWARDS UNPROTECTED SEXUAL ACTIVITY

REQUEST FOR PARTICIPANT INFORMED CONSENT

Dear participant,
I am a postgraduate research student in Psychology at the University of Bath. As part of my work, I am conducting a study about university students' attitudes towards unprotected sexual activity, and I am looking for volunteers to complete these questionnaires. If you would like to take part, it is necessary that you first give your informed consent, by reading and signing this sheet.
Your participation in this study is completely voluntary. It is hoped that the data will assist in understanding a number of psychological factors that might be associated with unprotected sexual activity in undergraduate university students. The questionnaires will take about 20 minutes to complete.

As well as your participation in this study being entirely *voluntary,* you are free to withdraw from it at *any time.*

The questionnaires are to be filled in *anonymously* and the obtained information will be treated as *confidential.* All data will be stored in locked cabinets and only two researchers will read the actual questionnaires; my academic supervisor and myself.

If you wish to complete the questionnaires, please sign below:

Name of Participant (please print) ....

Signature of Participant ....

Date ....

Please, bear in mind that this sheet will be collected *before* and filed *separately* from the completed questionnaires.

You will be provided with a copy of this sheet. My name and contact details are printed below. Please feel free to contact me if you have any questions regarding this study. For further information regarding sexual health, you may visit the internet sites below.

Thank you for your participation.

Cleo Protogerou, Psychology PhD student, 6:20 Wessex House.
E-mail: psphp@bath.ac.uk. Telephone: 01225 384349

Academic Supervisor: Julie Turner-Cobb, Department of Psychology, 2 South. E-mail: J.M.T.Cobb@bath.ac.uk. Telephone: 01225 386982

Centre for Disease Control and Prevention: www.cdc.gov
NHS: www.hpe.org.uk/sexualhealthfactsheets

Informed Consent Sheet (Greek)

Αγαπητοί Συμμετέχοντες,

Ονομάζομαι Πρωτογέρου Κλειώ και κάνω το διδακτορικό μου στον τομέα της Ψυχολογίας της Υγείας στο Πανεπιστήμιο του Bath, στην Αγγλία. Η έρευνά μου αφορά στις συμπεριφορές που θέτουν την υγεία μας σε ρίσκο. Συγκεκριμένα, μελετώ τις στάσεις και τις απόψεις των φοιτητών σχετικά με τη χρήση του προφυλακτικού κατά την ερωτική επαφή. Για να φέρω σε πέρας την έρευνά μου χρειάζομαι φοιτητές, εύκαιρους να συμπληρώσουν δύο ερωτηματολόγια. Εάν θα θέλατε να πάρετε μέρος σε αυτήν την έρευνα είναι αναγκαίο να δώσετε την συγκατάθεσή σας, υπογράφοντας παρακάτω.

Η συμμετοχή σας σε αυτήν την έρευνα είναι εθελοντική και επιπλέον, μπορείτε να αποχωρήσετε ανά πάσα στιγμή. Ευελπιστώ ότι, συνολικά, οι απαντήσεις σας θα βοηθήσουν στην κατανόηση κάποιων ψυχολογικών παραγόντων που μπορεί να σχετίζονται με την χρήση (ή όχι) του προφυλακτικού κατά την σεξουαλική επαφή.

Δεν θα χρειαστεί να αφιερώσετε περισσότερο από 20 λεπτά για την συμπλήρωση των ερωτηματολογίων.

Τα ερωτηματολόγια θα συμπληρωθούν ανώνυμα και οι απαντήσεις σας θα παραμείνουν απόλυτα εμπιστευτικές. Τα ερωτηματολόγια θα μελετηθούν μόνο από εμένα και από την ακαδημαϊκή μου επόπτρια στην Αγγλία.

Πριν συμπληρώσετε τα ερωτηματολόγια, παρακαλώ, υπογράψτε :

Ονοματεπώνυμο ....

Υπογραφή ....

Ημερομηνία ....

Αυτή η φόρμα θα συλλεχθεί πριν απαντήσετε τα ερωτηματολόγια και θα αρχειοθετηθεί ξεχωριστά.

Παρακαλώ, θυμηθείτε να κρατήσετε το αντίτυπο αυτής της φόρμας. Τα στοιχεία μου είναι γραμμένα παρακάτω. Μην διστάσετε να έρθετε σε επικοινωνία μαζί μου εάν έχετε οποιαδήποτε ερώτηση σχετικά με αυτήν την έρευνα.

Σας ευχαριστώ για την συμμετοχή σας.

Πρωτογέρου Κλειώ.

Τηλέφωνο: 6976 292021

E-mail: psphp@bath.ac.uk **και** cleo_protogeros@hotmail.com

Debriefing Sheet

You have just participated in a study, which attempts to assess young peoples' attitudes and perceptions towards unprotected sexual activity (having sex without a condom).

Unprotected sex is investigated here by manipulating cognitive, situational, and non-conscious temporal variables.

Two cognitive variables were drawn from the Theory of Planned Behaviour (TPB) (Ajzen, 1985), which has been extensively applied to contraceptive behaviours and condom use (e.g., Boldero et al, 1992). Those consist of the person's *intention* to perform a behaviour and the person's *attitude* toward the behaviour, that is, her overall evaluation of the behaviour in question. For example, the decision to have sex with a condom may be determined by: your intention to use a condom, and your belief that using condoms is beneficial to your and your partner's health.

An example of non-conscious temporal factors influencing health/risk behaviours includes one's Time Perspective (TP), which can be defined as: "one's focusing on various temporal categories or time frames when making decisions and taking action". According to this approach, a person may have a *past* TP, a *present* TP, a *future* TP, or a *balanced* TP. A present TP, for example, has been associated with the fulfilment of present and short-lived activities; people who focus in the present may tend to show less concern about the consequences of their behaviours. Thus, we would anticipate a positive relationship between a present time perspective and non-condom use. By contrast, we would expect people who score high in future TP to demonstrate less sexual risk-taking, as they should be more concerned about the consequences of their current behaviours, tend to plan ahead and visualize their future. Past and balanced TP's have not been significantly associated with health risk-taking.

Finally, Relationship Status (the type of relationship one is involved in) is a situational variable, which has been found to shape one's feelings, thoughts and behaviours within the sexual relationship. One of the most consistent findings in sexual risk research is that people are more likely to use condoms with partners they regard as "casual", than with partners they regard as "regular" (Miller & Green, 2002). Non-condom use may be perceived as a means to achieving and sustaining intimacy, as it presupposes trust and psychophysical proximity. Thus, condoms may be perceived as threatening to the relationship, by compromising its level of trust and intimacy.

Thank you for taking part in this study. Your help is mostly appreciated.

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Debriefing Sheet (Greek)

ΕΝΗΜΕΡΩΤΙΚΗ ΣΕΛΙΔΑ

Μόλις πήρατε μέρος σε μια έρευνα η οποία προσπαθεί να μελετήσει τις στάσεις και τις απόψεις των φοιτητών αναφορικά με τη χρήση του προφυλακτικού, κατά την ερωτική επαφή.

Χρησιμοποίησα τρία θεωητικά πλαίσια ώστε να εντοπίσω πιθανούς παράγοντες, ικανούς να προβλέψουν τη χρήση (ή όχι) του προφυλακτικού. Αυτά αποτελούν τη Θεωρία της Προσχεδιασμένης Συμπεριφοράς (Theory of Planned Behaviour, Azjen,1991), τη Θεωρία της Χρονικής Προοπτικής (Theory of Time Perspective, Gonzales & Zimbardo, 1985), και το Είδος της Σχέσης που κάποιος μπορεί να έχει.

Σύμφωνα με τη Θεωρία της Προσχεδιασμένης Συμπεριφοράς, η πρόβλεψη μιας συμπεριφοράς στηρίζεται στην *πρόθεση* του ατόμου να υιοθετήσει την εν λόγω συμπεριφορά, και στην *υποκειμενική* αίσθηση ότι *ελέγχει* την εν λόγω συμπεριφορά. Η πρόθεση του ατόμου να συμπεριφερθεί κατά έναν συγκεκριμένο τρόπο βασίζεται στους εξής δύο παράγοντες: στη *στάση,* δηλαδή, στην συνολική εκτίμηση της εν λόγω συμπεριφοράς, και στους *υποκειμενικούς κανόνες,* δηλαδή στην επιρροή του κοινωνικού περιβάλλοντος στη υιοθέτηση της εν λόγω συμπεριφοράς.

Για παράδειγμα, η χρήση προφυλακτικού κατά την ερωτική επαφή, μπορεί να καθοριστεί από :

Την *πρόθεσή* σας να χρησιμοποιήσετε προφυλακτικό.

Την *αυτοπεποίθησή* σας στην ικανότητά σας να αγοράσετε προφυλακτικά και να τα χρησιμοποιήσετε με το σωστό τρόπο.

Την *πίστη* σας στην αποτελεσματικότητα των προφυλακτικών (σε θέματα Υγείας και Αντισύλληψης).

Την *εκτίμησή* σας ότι η οικογένειά σας και οι φίλοι σας θα ήθελαν να χρησιμοποιήσετε προφυλακτικά.

Η Χρονική Προοπτική μπορεί να ορισθεί ως: «η υποκειμενική έμφαση του ατόμου σε διάφορες χρονικές οπτικές γωνίες όταν καλείται να πάρει αποφάσεις και να συμπεριφερθεί κατά έναν συγκεκριμένο τρόπο». Πιο συγκεκριμένα, ένα άτομο μπορεί να δίνει έμφαση στο Παρελθόν, στο Παρόν, ή στο Μέλλον του. Για παράδειγμα, εάν κάποιος να δίνει έμφαση στο *παρόν,* τότε, κατά πάσα πιθανότητα, ενδιαφέρεται για το «εδώ και τώρα», αδιαφορεί για τις συνέπειες των πράξεών του στο μέλλον. Πράγματι, η *έμφαση στο παρόν* έχει συσχετισθεί με ριψοκίνδυνες συμπεριφορές για την υγεία μας, όπως η οδήγηση χωρίς ζώνη ασφαλείας, και η μη χρήση προφυλακτικού. Αντίθετα, τα άτομα που δίνουν έμφαση στο *μέλλον* ενδιαφέρονται για τις συνέπειες των πράξεών τους και σχεδιάζουν το μέλλον τους. Η *έμφαση στο μέλλον* έχει συσχετισθεί με συμπεριφορές που προάγουν την υγεία μας. Τέλος, η έμφαση στο *παρελθόν,* δεν έχει συσχετισθεί ιδιαίτερα με ριψοκίνδυνες συμπεριφορές.

Τέλος, το είδος της ερωτικής σχέσης που κάποιος έχει, επηρεάζει τα συναισθήματα, τις σκέψεις, κα τις πράξεις του προς τον σύντροφο. Πολλές έρευνες έχουν δείξει ότι έχουμε την τάση να χρησιμοποιούμε προφυλακτικό με τους «ευκαιριακούς» μας συντρόφους, αλλά όχι με τους «σταθερούς» (Miller & Green, 2002). Η μη χρήση προφυλακτικού θεωρείται ως ένας τρόπος κατάκτησης οικειότητας με τον/την σύντροφο, γιατί προϋποθέτει εμπιστοσύνη. Αντίθετα, η χρήση προφυλακτικού, πολλές φορές, θεωρείται ως απειλή στη σχέση γιατί μοιάζει να «απομακρύνει» συναισθηματικά και συματικά τους συντρόφους.

Σας ευχαριστώ που λάβατε μέρος σε αυτήν την έρευνα. Η βοήθειά σας ήταν ιδιαιτέρως σημαντική.

Πρωτογέρου Κλειώ, ερευνήτρια, Πανεπιστήμιο Bath, UK.

Ethics proposal

The proposal below was submitted, along with the questionnaires and consent/debriefing sheets, to the ethics committee of the Psychology Department of Bath University. The ethics proposal was composed according to the specifications of the Department.

Issue: the issue under consideration involves reported non-condom use. Participants will be British and Greek undergraduate university students.

A justification for the research: Unprotected sexual activity poses a serious threat to one's sexual health, as it can result to Sexually Transmitted Diseases and AIDS. Sexual Health has been defined by the World Health Organization (1975) as: "the integration of the physical, emotional, intellectual, and social aspects of sexual being in ways that are enriching and that enhance personality, communication and love". Current psychological theoretical models, based on premeditation and rationality, have had moderate success in the prediction and control of sexual risk-taking (Moore & Halford, 1999). This is reflected in the "intention-behaviour gap", a situation frequently observed in Health Psychology research. Situational, emotional, and non-conscious factors need also to be included in sexual risk research, in order to bridge the "intention-behaviour gap", to make more realistic predictions regarding condom use, and to create efficient interventions aimed at preventing STD transmission. Thus, the variables of Time Perspective and Relationship Status are suggested here as meaningful predictors of reported non-condom use. Undergraduate samples will be recruited as research has shown that during the early college years most risk behaviours take place (e.g., Leigh, 1999).

Avoidance of deception, presentation of purpose of study: All participants will be informed about the nature and the purpose of the study (both in oral and written form) before the distribution of the questionnaires and prior to the interviews. This will be a general description of the nature and purpose of the study, as a detailed description could bias the results.

Obtaining consent, including right to withdraw: A consent form will be provided before questionnaire distribution and interviewing. This form will ask for the participants' signed consent, and it will clearly indicate that the participant will "have the right to withdraw at any point of the study". Participants will also be orally informed about their right to withdraw.

Arrangements for debriefing, including access to support: A debriefing sheet will be given to the participants, as soon as the data will be gathered. This sheet will include a more detailed description of the theoretical basis of the study and its aims. Debriefing will have both an explanatory and educational nature. The researcher's telephone number and internet address will appear on the sheet, and participants will be encouraged to contact the researcher for any reason, relevant to the study. Also, internet sites giving information about STD's and contraceptive methods will be included.

Avoidance of distress or threats to self-esteem: Sexual activity can be a sensitive issue. However, this study will not ask participants to reveal specific sexual practices and orientations; rather, it will focus on the use (or not) of a condom, and on relationship style. TPB questionnaire items have been extensively

used in this domain, and this fact provides at least some reassurance that participants will not be distressed. TP measures do not include any sex-related questions. Participants will be instructed to withdraw from the study if they feel distressed or threatened in any way.

Privacy and Confidentiality: The data gathered by questionnaires and interviews will be treated anonymously. If the study is published, the names of the specific academic departments from which the participants were drawn will not appear on the report, thus ensuring confidentiality. Participants will be informed about these issues.

Special circumstances: Not applicable in this research.

Additional general ethical issues: It is important not to waste participants' time by "over-recruiting", while, at the same time, taking into consideration issues of statistical power. In studies like the proposed one, in which the data set will be split into two and multivariate statistics will be employed, at least 100 questionnaires should be analyzed in order to obtain adequate power (Stevens, 1996).

SUMMARY OF RESEARCH PROPOSAL

Aim.

The aim of the proposed research is to investigate reported sex-related risky behaviours in young adults (18-21 years old), in Greece and the UK. The study will focus specifically on young people's engagement in unprotected sexual intercourse (having sex without condoms).

Theoretical and Conceptual framework of the study.

It is well established that even common STD's can lead to more serious medical conditions, in many ways. For example, the HPV virus (Human Papilloma Virus), responsible for genital warts, is the most common causal factor of cervical cancer (Johnson et al, 2000). Similarly Chlamydia Trachomatis infections may also lead to various forms of urogenital cancer, and they may also predispose people to contracting more serious viruses, even the HIV virus (Carder, et al, 1999).

The Theory of Planned Behaviour (Ajzen, 1985) has been extensively applied to contraceptive behaviours and condom use (e.g., Boldero et al, 1992). In the TPB framework, the proximal determinants of whether or not a person performs a behaviour is her intention to do so, and her perceived behavioural control (her estimation of her ability to perform that behaviour). Intentions are determined by two additional constructs: attitude, that is the person's overall evaluation of the behaviour, and subjective norm, that is the person's perception regarding the social pressures to perform the behaviour.

PBC is very closely related to the construct of self-efficacy (Bandura, 1977), which refers to a person's confidence in her ability to carry out a particular behaviour. The constructs of PBC and self-efficacy share a common temporal component. For example, the development of self-efficacy reflects a tripartite temporal influence on behavioural self-regulation: self-efficacy beliefs are based in past experiences, present appraisals, and reflections on future options (Zimbardo & Boyd, 1999). According to Bandura (1977) self-efficacy, in part, depends on the ability to substitute distal goals for proximal goals; he referred to the preference for distal goals as "foreknowledge or future Time Perspective".

Philip Zimbardo and his associates have been pioneering research in this domain. They have formulated the Theory of Time Perspective (Gonzales &

Zimbardo, 1985) and have constructed a valid and reliable measurement of people's TP (Zimbardo & Boyd, 1999).

Zimbardo's definition of Time Perspective is "the subjective conception and focusing on various temporal categories or time frames when making decisions and taking action". According to this approach, a person may have a past Time Perspective, a present Time Perspective, a future Time Perspective, or a balanced Time Perspective.

A present Time Perspective, for example, has been associated with the fulfilment of present and short-lived activities; people who focus in the present may tend to show less concern about the consequences of their behaviours. Thus, we would anticipate a positive relationship between present time perspectives and risky activities. By contrast, we would expect people who score high in future Time Perspective to demonstrate less risk-taking. People who score high in future TP measures are concerned about the consequences of their current behaviours, tend to be able to plan ahead and visualize their future.

Furthermore, research in this domain has shown that one's Time Perspective is heavily influenced by the experience of being brought up in a certain culture (Levine et al, 1980).

One's Time Perspective seems to be closely related to certain behavioural predictors of the Theory of Planned Behaviour framework. For example, control beliefs, perceived behavioural control, and intentions, all face the future. We could expect individuals high in future TP to score highly in PBC, to have strong intentions, and as a result, engage in less health risk behaviours. The opposite could be expected of people high in present TP.

Thus, it seems to be a good idea to test the predictive ability of Time Perspective in relation to the Theory of Planned Behaviour predictor variables. Since the variables in the TPB have been found to explain 27% of the variance in behaviour across studies (Armitage & Conner, 2001), the utility of TP can be examined by controlling for TPB variables.

Research Questions and Hypotheses.

This proposed study aims to answer the following research questions:

- How well do the measures of Time Perspective (in particular present and future TP) and measures of the Theory of Planned Behaviour (in particular, control beliefs, perceived behavioural control, and intention) combine to predict reported unprotected sexual activity?
- Which will be the best predictor of reported unprotected sexual activity: TP constructs or TPB constructs?
- Will the addition of the TP variable enhance the ability of TPB variables to predict sex-related behavioural intentions and reported unprotected sexual activity?
- Will TP, on its own, be able to predict reported unprotected sexual activity when the effects of TPB variables are controlled for?
- Will Mediterranean samples (i.e, Greek samples) be more present-oriented and engage in more reported sexual-risky behaviours, as compared to North European samples (i.e, British samples)?

Methodology and Research Design.

Quantitative methodologies will be employed. In particular, the instrument that will be used to measure TP will be the Zimbardo Time Perspective Inventory

(Zimbardo & Boyd, 1999). Since present and future TPs are mostly relevant to health-risk behaviours, the items that refer to those two time orientations will be incorporated in a questionnaire, along with TPB measures.

Therefore, TP measures will be incorporated in a Theory of Planned Behaviour questionnaire, constructed specifically for unprotected sexual behaviours.

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Appendix B (Materials of Study 2)

Measures Used in Study 2

Theory of reasoned action, relationship status and demographic items

Dear Participant,

Please, bear in mind that this is a non-judgmental questionnaire, used for Health Psychology research purposes. You will be asked questions regarding Relationships and Unprotected Sexual Activity.

DEFINITION OF "UNPROTECTED SEXUAL ACTIVITY": Any type of sexual activity (e.g., oral, vaginal, anal sex) without the use of a *condom.* Other forms of contraception are irrelevant to this study.

DEFINITION OF "EXCLUSIVE RELATIONSHIP": An emotional (especially sexual) association restricted between two people.

1. In the course of the *last* 6 months how often did you have unprotected sex? *(please tick)*

Every time I had sex _____

Most of the times I had sex _____

About half of the times I had sex _____

Less than half of the times I had sex _____

Never _____

2. In the course of the *last* 6 months I had unprotected sex. *(please circle)*

1	2	3	4	5
Always did	Most of the times	Can't say/ no opinion	A few times	Never did

3. I intend to have unprotected sex in the *following* 6 months.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

4. I plan to have unprotected sex in the following 6 months.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

5. I would like to have unprotected sex in the following 6 months.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

6. Having unprotected sex is:

1	2	3	4	5
Enjoyable	Somewhat enjoyable	Can't say/ No opinion	Somewhat unenjoyable	Unenjoyable

1	2	3	4	5
Pleasant	Somewhat pleasant	Can't say/ No opinion	Somewhat unpleasant	Unpleasant

1	2	3	4	5
Good	Rather good	Can't say/ No opinion	Rather bad	Bad

1	2	3	4	5
Beneficial	Somewhat beneficial	Can't say/ No opinion	Somewhat harmful	Harmful

1	2	3	4	5
Wise	Somewhat wise	Can't say/ No opinion	Somewhat foolish	Foolish

7. The people in my life whose opinions I value would:

1	2	3	4	5
Strongly approve	Approve	Neither approve/ Nor disapprove	Disapprove	Strongly disapprove

of my having unprotected sex in the next 6 months.

8. Most people who are important to me have unprotected sex.

1	2	3	4	5
Definitely true	True	Can't say/ No opinion	False	Definitely false

9. For the last 6 months, I've been in:

1	2	3
An exclusive relationship	A non-exclusive/casual relationship	No relationship

10. In general, how long do you have to be in a relationship before considering it as "exclusive" ? *(please tick)*

Days _____

Weeks _____

Months _____

Years _____

9. When in an "exclusive" relationship, using condoms means: *(you may choose more than one answer)*

1	2	3	4	5	6
Health/Safety	Trust	Mistrust	Distance	Love/Passion	Other (please explain below)

10. When in a "non-exclusive" relationship, using condoms means: *(you may choose more than one answer)*

1	2	3	4	5	6
Health/Safety	Trust	Mistrust	Distance	Love/Passion	Other (please explain below)

11. A person who always carries a condom can be described as: *(you may choose more than one answer)*

1	2	3	4	5	6
Careful	Thoughtful	Prone to risks	Prone to 1-night stands	Healthy	Other (please explain below)

12. Have you ever been diagnosed with a Sexually Transmitted Disease? *(optional)*

Yes _____ No _____

13. You are:

1	2
Male	Female

14. Age ____

Please feel free to write in the space below any comments regarding this questionnaire and your experience as a participant in this study.

Theory of reasoned action, relationship status and demographic items (Greek)

Αγαπητοί Συμμετέχοντες,

Το ερωτηματολόγιο που ακολουθεί χρησημοποιείται στην Ψυχολογία Υγείας, για ερευνητικούς σκοπούς.

Θα χρειαστεί να απαντήσετε ερωτήσεις που αφορούν στην χρήση προφυλακτικού κατά την ερωτική επαφή.

Με τον όρο «Αποκλειστική σχέση» εννοούμε τον συναισθηματικό και σεξουαλικό σύνδεσμο μεταξύ δύο, και μόνο, ανθρώπων.

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1. Κατά την διάρκεια των προηγούμενων 6 μηνών, πόσο συχνά έκανες σεξ χωρίς προφυλακτικό;

Κάθε φορά που έκανα σεξ _____

Τις περισσότερες φορές που έκανα σεξ _____

Περίπου τις μισές φορές που έκανα σεξ _____

Λιγότερο από τις μισές φορές που έκανα σεξ _____

Ποτέ _____

2. Κατά τη διάρκεια των προηγούμενων 6 μηνών, πόσες φορές έκανες σεξ χωρίς προφυλακτικό;

1	2	3	4	5
Όλες τις φορές	Τις περισσότερες φορές	Δεν ξέρω/ Δεν απαντώ	Λίγες φορές	Καμμία φορά

3. Σκοπεύω να κάνω σεξ χωρίς προφυλακτικό, μέσα στους επόμενους 6 μήνες.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

4. Σχεδιάζω να κάνω σεξ χωρίς προφυλακτικό, μέσα στους επόμενους 6 μήνες.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

5. Θα ήθελα να κάνω σεξ χωρίς προφυλακτικό, τους επόμενους 6 μήνες.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

6. Το να κάνω σεξ χωρίς προφυλακτικό, τους επόμενους 6 μήνες, είναι:

1	2	3	4	5
Ευχάριστο	Σχετικά ευχάριστο	Δεν ξέρω/ Δεν απαντώ	Σχετικά Δυσάρεστο	Δυσάρεστο

1	2	3	4	5
Απολαυστικό	Σχετικά απολαυστικό	Δεν ξέρω/ Δεν απαντώ	Σχετικά μη απολαυστικό	Μη απολαυστικό

1	2	3	4	5
Σωστό	Σχετικά σωστό	Δεν ξέρω/ Δεν απαντώ	Σχετικά λάθος	Λάθος

1	2	3	4	5
Ωφέλιμο	Σχετικά ωφέλιμο	Δεν ξέρω/ Δεν απαντώ	Σχετικά βλαβερό	Βλαβερό

1	2	3	4	5
Σοφό	Σχετικά σοφό	Δεν ξέρω/ Δεν απαντώ	Σχετικά ανόητο	Ανόητο

7. Οι άνθρωποι που είναι σημαντικοί για μένα θα επικροτούσαν εάν έκανα σεξ χωρίς προφυλακτικό.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

8. Οι περισσότεροι άνθρωποι που είναι σημαντικοί για μένα κάνουν σεξ χωρίς προφυλακτικό.

1	2	3	4	5
Συμφωνώ Απόλυτα	Συμφωνώ	Δεν ξέρω/ Δεν απαντώ	Διαφωνώ	Διαφωνώ Απόλυτα

9. Τους τελευταίους 6 μήνες είχα:

1
Αποκλειστική Σχέση

2
Μή αποκλειστική Σχέση/
Ευκαιριακές Σχέσεις

3
Καμία Σχέση

10. Γενικά, πόσος χρόνος πρέπει να περάσει για να θεωρήσεις μια σχέση ως «αποκλειστική»;

Μέρες _____

Εβδομάδες _____

Μήνες _____

Χρόνια _____

11. Σε μια «αποκλειστική» σχέση, η χρήση προφυλακτικού σημαίνει:
(επιλέξατε όσες απαντήσεις θεωρείτε σωστές)

1	**2**	**3**	**4**	**5**	**6**
Υγεία/ Ασφάλεια	Εμπιστοσύνη	Έλειψη Εμπιστοσύνης	Απόσταση	Αγάπη/ Πάθος	'Αλλο (*περιγράψτε παρακάτω*)

12. Σε «ευκαιριακές» σχέσεις, η χρήση προφυλακτικού, σημαίνει:
(επιλέξατε όσες απαντήσεις θεωρείτε σωστές)

1	**2**	**3**	**4**	**5**	**6**
Υγεία/ Ασφάλεια	Εμπιστοσύνη	Έλειψη Εμπιστοσύνης	Απόσταση	Αγάπη/ Πάθος	'Αλλο (*περιγράψτε παρακάτω*)

13. Κάποιος(α) που πάντα έχει προφυλακτικά μαζί του(της) μπορεί να χαρακτηριστεί ως: *(επιλέξατε όσες απαντήσεις θεωρείτε σωστές)*

1	2	3	4	5	6
Προσεκτικός(ή)	Συνετός(ή)	Επιρεπής σε ρίσκα	Επιρεπής σε σχέσεις μιας βραδιάς	Υγιής	Άλλο *(περιγράψτε παρακάτω)*

14. Έχεις διαγνωσθεί ποτέ με κάποιο Σεξουαλικά Μεταδιδόμενο Νόσημα; *(απαντήστε προαιρετικά)*

Ναι _____ Όχι _____

15. Είσαι:

1	2
Άνδρας	Γυναίκα

16. Ηλικία _____

Εάν θέλετε, γράψτε παρακάτω τις παρατηρήσεις σας σχετικά με τα ερωτηματολόγια που μόλις συμπληρώσατε, και προσθέσατε ό,τι κρίνετε αναγκαίο. Οι προσωπικές σας απόψεις σας είναι πολύτιμες.

Zimbardo Time Perspective Inventory (ZTPI -Full Form)

In response to the following statements, please answer the following question:

How characteristic or true is this of you?

Circle a number from this scale:

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

1. I believe that a person's day should be planned ahead each morning.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

2. I prefer friends who are spontaneous rather than predictable.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

3. I feel that it is more important to enjoy what you are doing now, than to get work done on time.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

4. It upsets me to be late for appointments.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

5. There will always be time to catch up on my work.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

6. Spending what I earn on today's pleasures is better than saving for tomorrow's security.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

7. I find myself getting swept away in the excitement of the moment.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

8. I make lists of things to do.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

9. If things don't get done on time, I don't worry about it.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

10. Often luck pays off better than hard work.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

11. I do things impulsively.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

12. I believe that getting together with friends to party is one of life's important pleasures.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

13. I complete projects on time by making steady progress.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

14. Meeting tomorrow's deadlines and doing other necessary work comes before tonight's play.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

15. I like my close friendships to be passionate.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

16. I try to live my life as fully as possible, one day at a time.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

17. When I want to achieve something, I set goals and consider specific means of reaching those goals.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

18. I am able to resist temptations when I know there is work to be done.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

19. Ideally, I would live each day as if it were my last.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

20. I take risks to put excitement in my life.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

21. Fate determines much of my life.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

22. My decisions are mostly influenced by people and things around me.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

23. When listening to my favourite music, I often lose track of time.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

24. Since "whatever will be will be", it doesn't really matter what I do.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

25. I meet my obligations to friends and authorities on time.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

26. I male decisions on the spur of the moment.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

27. I take each day as it is rather than try to plan it out.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

28. It is important to put excitement into my life.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

29. Before making a decision, I weigh the costs against the benefits.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

30. Taking risks keeps my life from becoming boring.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

31. It is more important for me to enjoy life's journey than to focus only on the destination.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

32. Things rarely work out as expected.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

33. It takes joy out of the process and flow of my activities, if I have to think about goals, outcomes, and products.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

34. You can't really plan for the future because things change so much.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

35. My life path is controlled by forces I cannot influence.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

36. I keep working at difficult, uninteresting tasks if they will help me get ahead.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

37. I often follow my heart more than my head.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

38. It doesn't make sense to worry about the future since there is nothing I can do about it anyway.

1	2	3	4	5
Very characteristic	characteristic	neutral	uncharacteristic	very uncharacteristic

Zimbardo Time Perspective Inventory –ZTPI (Greek)

Πόσο αληθινές (ή χαρακτηριστικές) είναι οι παρακάτω δηλώσεις για σένα?

Κύκλωσε την πιο αληθινή απάντηση για σένα (αυτή που σε χαρακτηρίζει καλύτερα), χρησιμοποιώντας την παρακάτω κλίμακα:

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

---

1. **Πιστεύω ότι πρέπει να προγραμματίζω την ημέρα μου κάθε πρωί.**

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

2. **Προτιμώ οι φίλοι μου να είναι αυθόρμητοι και όχι προβλέψιμοι.**

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

3. **Πιστεύω ότι είναι πιο σημαντικό να ευχαριστιέμαι τη στιγμή, παρά να τελειώνω τις δουλειές μου στην ώρα τους.**

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

4. **Εκνευρίζομαι όταν καθυστερώ στα ραντεβού μου.**

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

5. **Πάντα υπάρχει χρόνος για να τελειώσω τις δουλειές μου.**

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

6. **Προτιμώ να ξοδεύω το εισόδημά μου σε πρόσκαιρες απολαύσεις, παρά να αποταμιεύω για το μέλλον.**

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

7. Παρασύρομαι / ξεχνιέμαι όταν ζω έντονες στιγμές.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

8. Φτιάχνω λίστες για τα πράγματα που πρέπει να κάνω.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

9. Δεν αναστατώνομαι όταν δεν τελειώνω τις δουλειές μου στην ώρα τους.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

10. Πολλές φορές, η τύχη βοηθά περισσότερο από την σκληρή δουλειά.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

11. Κάνω αυθόρμητα πράγματα.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

12. Πιστεύω ότι το να μαζευόμαστε φίλοι και να διασκεδάζουμε είναι από τις σημαντικές απολαύσεις της ζωής.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

13. Ολοκληρώνω τις εργασίες μου κάνοντας σταθερή πρόοδο.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

14. Ακόμα και αν θα μπορούσα να βγω σήμερα, θα επέλεγα πρώτα να τελειώσω τις υποχρεώσεις που έχω για αύριο.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

15. Μου αρέσει να έχω παθιασμένες σχέσεις.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

16. Προσπαθώ να ζω το σήμερα χωρίς να αγχώνομαι για το αύριο.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

17. Όταν θέλω να πετύχω κάτι, θέτω συγκεκριμένους στόχους και σκέφτομαι με ποιούς τρόπους θα μπορούσα να πετύχω αυτούς τους στόχους.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

18. Μπορώ να αντιστέκομαι σε πειρασμούς όταν έχω δουλειές να κάνω.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

19. Το ιδανικό θα ήταν να μπορούσα να ζω την κάθε μου μέρα σαν να ήταν η τελευταία.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

20. Παίρνω ρίσκα για να κάνω τη ζωή μου συναρπαστική.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

21. Η μοίρα καθορίζει ένα σημαντικό κομμάτι της ζωής μου.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

22. Οι αποφάσεις μου καθορίζονται κατά πολύ από ανθρώπους και καταστάσεις γύρω μου.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

23. Όταν ακούω την αγαπημένη μου μουσική, συχνά χάνω την αίσθηση του χρόνου.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

24. Δεν έχει και τόση σημασία τί κάνω, αφού «ότι είναι να γίνει, θα γίνει».

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

25. Τελειώνω τις υποχρεώσεις μου, προς φίλους και ανωτέρους, στην ώρα τους.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

26. Παίρνω ξαφνικές αποφάσεις.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

27. Αντιμετωπίζω την κάθε μέρα όπως αυτή έρχεται, αντί να προσπαθώ να την προγραμματίζω.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

28. Είναι σημαντικό να προσθέτω απολαύσεις στη ζωή μου.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

29. Πριν πάρω μιαν απόφαση ζυγίζω τα υπέρ και τα κατά.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

30. Παίρνω ρίσκα για να μην βαριέμαι.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

31. Στη ζωή, είναι πιο σημαντική η διαδρομή παρά ο προορισμός.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

32. Τα πράγματα σπάνια καταλήγουν έτσι όπως τα περιμένω.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

33. Εάν είναι να υπολογίζω στόχους, συνέπειες, και αποτελέσματα, δεν απολαμβάνω την ομαλή ροή των πραγμάτων.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

34. Δεν μπορώ πραγματικά να σχεδιάσω το μέλλον γιατί οι καταστάσεις αλλάζουν διαρκώς.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

35. Το μονοπάτι της ζωής μου καθορίζεται από δυνάμεις που δεν μπορώ να αλλάξω.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

36. Εάν είναι να προοδεύσω, κάνω και αγγαρείες.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

37. Συχνά ακολουθώ την καρδιά μου περισσότερο από το μυαλό μου.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

38. Δέν έχει νόημα να ανησυχώ για το μέλλον, αφού ούτως ή άλλως, δεν μπορώ να κάνω κάτι γι'αυτό.

1	2	3	4	5
Απόλυτα Αληθές	Αληθές	Δεν ξέρω/ Δεν απαντώ	Ψευδές	Απόλυτα Ψευδές

Informed Consent Sheet for the questionnaire

RESEARCH STUDY REGARDING YOUNG PEOPLES' ATTITUDES TOWARDS UNPROTECTED SEXUAL ACTIVITY

REQUEST FOR PARTICIPANT INFORMED CONSENT

Dear participant,

I am a postgraduate research student in Psychology at the University of Bath. As part of my work, I am conducting a study about university students' attitudes towards unprotected sexual activity, and I am looking for volunteers to complete these questionnaires. If you would like to take part, it is necessary that you first give your informed consent, by reading and signing this sheet.
Your participation in this study is completely voluntary. It is hoped that the data will assist in understanding a number of psychological factors that might be associated with unprotected sexual activity in undergraduate university students.

The questionnaires will take about 20 minutes to complete.

As well as your participation in this study being entirely *voluntary*, you are free to withdraw from it at *any time*.

The questionnaires are to be filled in *anonymously* and the obtained information will be treated as *confidential*. All data will be stored in locked cabinets and only two researchers will read the actual questionnaires; my academic supervisor and myself.

If you wish to complete the questionnaires, please sign below:

Name of Participant (please print) ....
Signature of Participant ....
Date ....

Please, bear in mind that this sheet will be collected *before* and filed *separately* from the completed questionnaires.

You will be provided with a copy of this sheet. My name and contact details are printed below. Please feel free to contact me if you have any questions regarding this study. For further information regarding sexual health, you may visit the internet sites below.

Thank you for your participation.

Cleo Protogerou, Psychology PhD student, 6:20 Wessex House.
E-mail: psphp@bath.ac.uk. Telephone:

Academic Supervisor: Julie Turner-Cobb, Department of Psychology, 2 South. E-mail: J.M.T.Cobb@bath.ac.uk. Telephone: 01225 386982

Centre for Disease Control and Prevention: www.cdc.gov

NHS: www.hpe.org.uk/sexualhealthfactsheets

Informed consent sheet for the interviews

RESEARCH STUDY REGARDING YOUNG PEOPLES' ATTITUDES TOWARDS UNPROTECTED SEXUAL ACTIVITY
REQUEST FOR PARTICIPANT INFORMED CONSENT

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I am a postgraduate research student in Psychology at the University of Bath. As part of my work, I am conducting a study about university students' attitudes towards unprotected sexual activity, and I am looking for volunteers to take part in an interview. If you would like to participate, it is necessary that you first give your informed consent, by reading and signing this sheet.

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As well as your participation in this study being entirely *voluntary*, you are free to withdraw from it at *any time.*

The interviews are *anonymous* and the obtained information will be treated as *confidential.* This sheet will be collected *before* and filed *separately* from the recorded interviews.
All data will be stored in locked cabinets and only two researchers will read the actual questionnaires; my academic supervisor and myself.

If you wish to be interviewed, please sign below:

Name of Participant (please print) ....

Signature of Participant ....

Date ....

You will be provided with a copy of this sheet. My name and contact details are printed below. Please feel free to contact me if you have any questions regarding this study. For further information regarding sexual health, you may visit the internet sites below.

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Cleo Protogerou, Psychology PhD student, 6:20 Wessex House.
E-mail: psphp@bath.ac.uk. Telephone: 01225 384349

Academic Supervisor: Julie Turner-Cobb, Department of Psychology, 2 South. E-mail: J.M.T.Cobb@bath.ac.uk. Telephone: 01225 386982

Centre for Disease Control and Prevention: www.cdc.gov

NHS: www.hpe.org.uk/sexualhealthfactsheets

Informed Consent Sheet (Greek)

Αγαπητοί Συμμετέχοντες,

Ονομάζομαι Πρωτογέρου Κλειώ και κάνω το διδακτορικό μου στον τομέα της Ψυχολογίας της Υγείας στο Πανεπιστήμιο του Bath, στην Αγγλία. Η έρευνά μου αφορά στις συμπεριφορές που θέτουν την υγεία μας σε ρίσκο. Συγκεκριμένα, μελετώ τις στάσεις και τις απόψεις των φοιτητών σχετικά με τη χρήση του προφυλακτικού κατά την ερωτική επαφή. Για να φέρω σε πέρας την έρευνά μου χρειάζομαι φοιτητές, εύκαιρους να συμπληρώσουν δύο ερωτηματολόγια. Εάν θα θέλατε να πάρετε μέρος σε αυτήν την έρευνα είναι αναγκαίο να δώσετε την συγκατάθεσή σας, υπογράφοντας παρακάτω.

Η συμμετοχή σας σε αυτήν την έρευνα είναι εθελοντική και επιπλέον, μπορείτε να αποχωρήσετε ανά πάσα στιγμή. Ευελπιστώ ότι, συνολικά, οι απαντήσεις σας θα βοηθήσουν στην κατανόηση κάποιων ψυχολογικών παραγόντων που μπορεί να σχετίζονται με την χρήση (ή όχι) του προφυλακτικού κατά την σεξουαλική επαφή.

Δεν θα χρειαστεί να αφιερώσετε περισσότερο από 20 λεπτά για την συμπλήρωση των ερωτηματολογίων.

Τα ερωτηματολόγια θα συμπληρωθούν ανώνυμα και οι απαντήσεις σας θα παραμείνουν απόλυτα εμπιστευτικές. Τα ερωτηματολόγια θα μελετηθούν μόνο από εμένα και από την ακαδημαϊκή μου επόπτρια στην Αγγλία.

Πριν συμπληρώσετε τα ερωτηματολόγια, παρακαλώ, υπογράψτε :

Ονοματεπώνυμο ....

Υπογραφή ....

Ημερομηνία ....

Αυτή η φόρμα θα συλλεχθεί πριν απαντήσετε τα ερωτηματολόγια και θα αρχειοθετηθεί ξεχωριστά.

Παρακαλώ, θυμηθείτε να κρατήσετε το αντίτυπο αυτής της φόρμας. Τα στοιχεία μου είναι γραμμένα παρακάτω. Μην διστάσετε να έρθετε σε επικοινωνία μαζί μου εάν έχετε οποιαδήποτε ερώτηση σχετικά με αυτήν την έρευνα.

Σας ευχαριστώ για την συμμετοχή σας.

Πρωτογέρου Κλειώ.

Τηλέφωνο: 6976 292021

E-mail: psphp@bath.ac.uk **και** cleo_protogeros@hotmail.com

Debriefing Sheet

DEBRIEFING SHEET

You have just participated in a study, which attempts to assess young peoples' attitudes and perceptions towards unprotected sexual activity (having sex without a condom).

Unprotected sex is investigated here by manipulating cognitive, situational, and non-conscious temporal variables.

Two cognitive variables were drawn from the Theory of Planned Behaviour (TPB) (Ajzen, 1985), which has been extensively applied to contraceptive behaviours and condom use (e.g., Boldero et al, 1992). Those consist of the person's *intention* to perform a behaviour and the person's *attitude* toward the behaviour, that is, her overall evaluation of the behaviour in question. For example, the decision to have sex with a condom may be determined by: your intention to use a condom, and your belief that using condoms is beneficial to your and your partner's health.

An example of non-conscious temporal factors influencing health/risk behaviours includes one's Time Perspective (TP), which can be defined as: "one's focusing on various temporal categories or time frames when making decisions and taking action". According to this approach, a person may have a *past* TP, a *present* TP, a *future* TP, or a *balanced* TP. A present TP, for example, has been associated with the fulfilment of present and short-lived activities; people who focus in the present may tend to show less concern about the consequences of their behaviours. Thus, we would anticipate a positive relationship between a present time perspective and non-condom use. By contrast, we would expect people who score high in future TP to demonstrate less sexual risk-taking, as they should be more concerned about the consequences of their current behaviours, tend to plan ahead and visualize their future. Past and balanced TPs have not been significantly associated with health risk-taking.

Finally, Relationship Status (the type of relationship one is involved in) is a situational variable, which has been found to shape one's feelings, thoughts and behaviours within the sexual relationship. One of the most consistent findings in sexual risk research is that people are more likely to use condoms with partners they regard as "casual", than with partners they regard as "regular" (Miller & Green, 2002). Non-condom use may be perceived as a means to achieving and sustaining intimacy, as it presupposes trust and psychophysical proximity. Thus, condoms may be perceived as threatening to the relationship, by compromising its level of trust and intimacy.

Thank you for taking part in this study. Your help is mostly appreciated.

Cleo Protogerou, Psychology PhD student, 6:20 Wessex House.
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Debriefing Sheet (Greek)

ΕΝΗΜΕΡΩΤΙΚΗ ΣΕΑΙΔΑ

Μόλις πήρατε μέρος σε μια έρευνα η οποία προσπαθεί να μελετήσει τις στάσεις και τις απόψεις των φοιτητών αναφορικά με τη χρήση του προφυλακτικού, κατά την ερωτική επαφή.

Χρησιμοποίησα τρία θεωητικά πλαίσια ώστε να εντοπίσω πιθανούς παράγοντες, ικανούς να προβλέψουν τη χρήση (ή όχι) του προφυλακτικού. Αυτά αποτελούν τη Θεωρία της Προσχεδιασμένης Συμπεριφοράς (Theory of Planned Behaviour, Azjen,1991), τη Θεωρία της Χρονικής Προοπτικής (Theory of Time Perspective, Gonzales & Zimbardo, 1985), και το Είδος της Σχέσης που κάποιος μπορεί να έχει.

Σύμφωνα με τη Θεωρία της Προσχεδιασμένης Συμπεριφοράς, η πρόβλεψη μιας συμπεριφοράς στηρίζεται στην *πρόθεση* του ατόμου να υιοθετήσει την εν λόγω συμπεριφορά, και στην *υποκειμενική* αίσθηση ότι *ελέγχει* την εν λόγω συμπεριφορά. Η πρόθεση του ατόμου να συμπεριφερθεί κατά έναν συγκεκριμένο τρόπο βασίζεται στους εξής δύο παράγοντες: στη *στάση*, δηλαδή, στην συνολική εκτίμηση της εν λόγω συμπεριφοράς, και στους *υποκειμενικούς κανόνες*, δηλαδή στην επιρροή του κοινωνικού περιβάλλοντος στη υιοθέτηση της εν λόγω συμπεριφοράς.

Για παράδειγμα, η χρήση προφυλακτικού κατά την ερωτική επαφή, μπορεί να καθοριστεί από :

Την *πρόθεσή* σας να χρησιμοποιήσετε προφυλακτικό.

Την *αυτοπεποίθησή* σας στην ικανότητά σας να αγοράσετε προφυλακτικά και να τα χρησιμοποιήσετε με το σωστό τρόπο.

Την *πίστη* σας στην αποτελεσματικότητα των προφυλακτικών (σε θέματα Υγείας και Αντισύλληψης).

Την *εκτίμησή* σας ότι η οικογένειά σας και οι φίλοι σας θα ήθελαν να χρησιμοποιήσετε προφυλακτικά.

Η Χρονική Προοπτική μπορεί να ορισθεί ως: «η υποκειμενική έμφαση του ατόμου σε διάφορες χρονικές οπτικές γωνίες όταν καλείται να πάρει αποφάσεις και να συμπεριφερθεί κατά έναν συγκεκριμένο τρόπο». Πιο συγκεκριμένα, ένα άτομο μπορεί να δίνει έμφαση στο Παρελθόν, στο Παρόν, ή στο Μέλλον του. Για παράδειγμα, εάν κάποιος να δίνει έμφαση στο *παρόν,* τότε, κατά πάσα πιθανότητα, ενδιαφέρεται για το «εδώ και τώρα», αδιαφορεί για τις συνέπειες των πράξεών του στο μέλλον. Πράγματι, η *έμφαση στο παρόν* έχει συσχετισθεί με ριψοκίνδυνες συμπεριφορές για την υγεία μας, όπως η οδήγηση χωρίς ζώνη ασφαλείας, και η μη χρήση προφυλακτικού. Αντίθετα, τα άτομα που δίνουν έμφαση στο *μέλλον* ενδιαφέρονται για τις συνέπειες των πράξεών τους και σχεδιάζουν το μέλλον τους. Η *έμφαση στο μέλλον* έχει συσχετισθεί με συμπεριφορές που προάγουν την υγεία μας. Επίσης, η έμφαση στο *παρελθόν,* δεν έχει συσχετισθεί ιδιαίτερα με ριψοκίνδυνες συμπεριφορές.

Τέλος, το είδος της ερωτικής σχέσης που κάποιος έχει, επηρεάζει τα συναισθήματα, τις σκέψεις, κα τις πράξεις του προς τον σύντροφο. Πολλές έρευνες έχουν δείξει ότι έχουμε την τάση να χρησιμοποιούμε προφυλακτικό με τους «ευκαιριακούς» μας συντρόφους, αλλά όχι με τους «σταθερούς» (Miller & Green, 2002). Η μη χρήση προφυλακτικού θεωρείται ως ένας τρόπος κατάκτησης οικειότητας με τον/την σύντροφο, γιατί προϋποθέτει εμπιστοσύνη. Αντίθετα, η χρήση προφυλακτικού, πολλές φορές, θεωρείται ως απειλή στη σχέση γιατί μοιάζει να «απομακρύνει» συναισθηματικά και συματικά τους συντρόφους.

Σας ευχαριστώ που λάβατε μέρος σε αυτήν την έρευνα. Η βοήθειά σας ήταν ιδιαιτέρως σημαντική.

Πρωτογέρου Κλειώ, ερευνήτρια, Πανεπιστήμιο Bath, UK.

Interview protocol (Interviewer's Script)

INTRODUCTION.
Thank you for coming to this interview today. My name is Cleo Protogerou, I am a PhD student at Bath University, and I am studying various factors which might influence the use of condoms in young people. I would like to make clear from the start that your answers will be treated anonymously and confidentially. Furthermore, I need to ask for your signed consent to this interview *(Hand Informed Consent Sheet now. If consent is given, proceed)*. Would you mind if I recorded our discussion? By recording it, I will be able to remember exactly what we talked about, without making any inferences of my own. Please, keep in mind that you have the right to refuse to answer questions and to withdraw from the interview at any time.

QUESTIONS (open-ended).

1.   I'd like to begin our talk by asking you if you are currently dating someone.

2.   IF YES: How would you describe the style of your relationship? For example, would you say that it is "exclusive", "casual", or something else? **GO TO ITEM 3.**
IF NO: Extract information regarding dating pattern during the last 6 months and then **GO TO ITEM 4.**

3.   How long have you been dating this person?

4.   In general, how long to you have to be in a relationship before considering as "exclusive"?

5.   What types of contraception (if any) do you use?

6.   When you are in an "exclusive" relationship do you use condoms? *(seek reasons for condom use/non-use in this context).*

7.   When you are in a "non-exclusive relationship" do you use condoms? *(seek reasons for condom use/non-use in this context).*

8.   How would you describe a person who always has a condom in their pocket or purse, when they go out?

9.   Have you ever been diagnosed with a Sexually Transmitted Disease?

CONCLUSION.
I have no more questions to ask you. Thank you very much for giving me some of your time and energy. Is there anything that you would like to add or comment upon? *(Now hand Debriefing Sheet).*

Documentation Sheet (interviews)

Date of interview: ....

Place of interview: ....

Duration of interview: ....

Nationality of interviewee: ....

Gender of interviewee: ....

Age of interviewee: ....

Relationship Status: ....

Relationship Duration: ....

STD History: ....

Peculiarities of interview: ....

Ethics proposal

The proposal below was submitted, with the measures and all the relevant materials, to the ethics committee of the Psychology Department of Bath University. The ethics proposal was composed according to the specifications of the Department.

Issue: the issue under consideration involves reported non-condom use. Participants will be British and Greek undergraduate university students.

A justification for the research: Unprotected sexual activity poses a serious threat to one's sexual health, as it can result to Sexually Transmitted Diseases and AIDS. Sexual Health has been defined by the World Health Organization (1975) as: "the integration of the physical, emotional, intellectual, and social aspects of sexual being in ways that are enriching and that enhance personality, communication and love". Current psychological theoretical models, based on premeditation and rationality, have had moderate success in the prediction and control of sexual risk-taking (Moore & Halford, 1999). This is reflected in the "intention-behaviour gap", a situation frequently observed in Health Psychology research. Situational, emotional, and non-conscious factors need also to be included in sexual risk research, in order to bridge the "intention-behaviour gap", to make more realistic predictions regarding condom use, and to create efficient interventions aimed at preventing STD transmission. Thus, the variables of Time Perspective and Relationship Status are suggested here as meaningful predictors of reported non-condom use. Undergraduate samples will be recruited as research has shown that during the early college years most risk behaviours take place (e.g., Leigh, 1999).

Avoidance of deception, presentation of purpose of study: All participants will be informed about the nature and the purpose of the study (both in oral and written form) before the distribution of the questionnaires and prior to the interviews. This will be a general description of the nature and purpose of the study, as a detailed description could bias the results.

Obtaining consent, including right to withdraw: A consent form will be provided before questionnaire distribution and interviewing. This form will ask for the participants' signed consent, and it will clearly indicate that the participant will "have the right to withdraw at any point of the study". Participants will also be orally informed about their right to withdraw.

Arrangements for debriefing, including access to support: A debriefing sheet will be given to the participants, as soon as the data will be gathered. This sheet will include a more detailed description of the theoretical basis of the study and its aims. Debriefing will have both an explanatory and educational nature. The researcher's telephone number and internet address will appear on the sheet, and participants will be encouraged to contact the researcher for any reason, relevant to the study. Also, internet sites giving information about STD's and contraceptive methods will be included.

Avoidance of distress or threats to self-esteem: Sexual activity can be a sensitive issue. However, this study will not ask participants to reveal specific sexual practices and orientations; rather, it will focus on the use (or not) of a

condom, and on relationship style. TPB questionnaire items have been extensively used in this domain, and this fact provides at least some reassurance that participants will not be distressed. TP measures do not include any sex-related questions. Participants will be instructed to withdraw from the study if they feel distressed or threatened in any way.

Privacy and Confidentiality: The data gathered by questionnaires and interviews will be treated anonymously. If the study is published, the names of the specific academic departments from which the participants were drawn will not appear on the report, thus ensuring confidentiality. Participants will be informed about these issues.

Special circumstances: Not applicable in this research.

Additional general ethical issues: It is important not to waste participants' time by "over-recruiting", while, at the same time, taking into consideration issues of statistical power. In studies like the proposed one, in which the data set will be split into two and multivariate statistics will be employed, at least 100 questionnaires should be analyzed in order to obtain adequate power (Stevens, 1996).

SHORT RESEARCH PROPOSAL

Aim of the study: The aim of the proposed research is to investigate potential factors that affect and predict reported non-condom use in university undergraduates (18-21 years old), in Greece and the UK.

Theoretical and Conceptual framework of the study: Reported non-condom use will be studied from a cognitive, situational, and non-conscious temporal perspective. In particular, two cognitive variables will be drawn from the Theory of Planned Behaviour (TPB) (Ajzen, 1985), which has been extensively applied to contraceptive behaviours and condom use (e.g., Boldero et al, 1992). Those consist of the person's *intention* to perform a behaviour and the person's *attitude* toward the behaviour, that is, her overall evaluation of the behaviour in question.

An emphasis on the study of non-conscious temporal influences on self-regulated health behaviours is an emerging theme in psychological literature. Specifically, Gonzales & Zimbardo (1985) formulated the Theory of Time Perspective, and Zimbardo & Boyd (1999) constructed a valid and reliable measurement of people's Time Perspective (TP). Zimbardo's definition of TP is "the subjective conception of focusing on various temporal categories or time frames when making decisions and taking action". According to this approach, a person may have a *past* TP, a *present* TP, a *future* TP, or a *balanced* TP. A present TP, for example, has been associated with the fulfilment of present and short-lived activities; people who focus in the present may tend to show less concern about the consequences of their behaviours. Thus, a positive relationship is anticipated between a present time perspective and non-condom use. By contrast, we would expect people who score high in future TP to demonstrate less sexual risk-taking, as they should be more concerned about the consequences of their current behaviours, tend to plan ahead and visualize their future. Past and balanced TP's have not been associated with sexual risk-taking. Time Perspective is a relatively stable psychological construct, determined by social, cultural, economic, and familial factors (Fraisse, 1964). People from western, industrialized societies tend to be more future-oriented than people from non-western ones (Zimbardo, 1999). Since research has shown that the

experience of being brought up in a particular culture differentially shapes one's TP, cross-cultural comparisons are justified (Jones, 1988).

Finally, Relationship Status (the type of relationship one is involved in) is a situational or contextual variable, which has been found to shape one's feelings, thoughts and behaviours within the sexual relationship. By and large, research conducted in the area of relationship style and sexual risk has shown that people attribute certain meanings to their intimate relationships, which interact with the meanings attributed to condom use. For example, one of the most consistent findings is that people are more likely to use condoms with partners they regard as "casual", than with partners they regard as "regular" (Miller & Green, 2002). Non-condom use may be perceived as a means to achieving and sustaining intimacy, as it presupposes trust and psychophysical proximity. Thus, condoms may be perceived as threatening to the relationship, by compromising its level of trust and intimacy.

Research Methods: Various methodologies will be employed. Time Perspective will be measured by the Zimbardo Time Perspective Inventory (Zimbardo & Boyd, 1999). Only present and future TPs items will be used, as they are mostly relevant to health-risk behaviours. Non-condom use, intentions, and attitudes will be assessed by items from a standard TPB questionnaire. Additional questions will be included to measure Relationship Status, and the differential meaning attributed to condom use cross-culturally, and across relationship styles. In addition to the questionnaire method, data regarding how relationship style might influence condom use will be collected via individual, semi-structured interviews. In order to reduce interviewer bias and ensure uniformity in procedure, specific questions will be asked, in a specific order. Neutral manner and tone of voice will be kept, whilst there will be no probes, prompts, and other mannerisms, which might influence the participant's answers. However, participant's answers will not be determined by a set of response categories; responses are to be left open. Data from questionnaires will be statistically analysed via SPSS, whilst data from interviews will be subjected to Content Analysis.

Samples: The participants will be undergraduate university students, both in the UK and in Greece (links exist in Athens, Greece, mainly at PANTEION University, although other academic institutions may be accessed). With the co-operation of lecturers, participants are to be approached in classrooms and asked to fill in the questionnaires. Regarding the interviews, participants will again be recruited from their classrooms, and from announcements placed on the university web site and boards. Interviews will be carried out at appointed times in the researcher's office.

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