OPERATIONALLY DEFINING SEXUAL ORIENTATION: TOWARDS THE DEVELOPMENT OF A FUNDAMENTAL MEASURE OF ADOLESCENT SEXUAL RESPONSIVENESS VARIATIONS

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ABSTRACT

Much published work has pointed to the need for the development of a sound operational definition of sexual orientation in order to enable the research in this area to progress. To contribute to this process the current research set out to develop two measures of sexual orientation and examine their psychometric properties. In order to develop relevant tools historical, conceptual and operational definitions of sexual orientation were critically examined and standard questionnaire development techniques applied. The first scale consisted of 32 items and was administered to a total of 835 adolescents, comprising three sub-groups (189 Grade 11 Scholars, 547 First Year and 99 Third Year Psychology Students). A Cronbach *alpha* coefficient of 0.85 was calculated indicating that this instrument had very good internal consistency reliability. Similar factors emerged in each of the sample sub-groups when factor analyses were performed suggesting that this instrument has good external and construct validities. These factors each had respectable Cronbach *alpha* coefficients indicating their own internal consistency. The four factors which consistently emerged were Same Sex Responsiveness, Opposite Sex Responsiveness, Previous Month's Same Sex Responsiveness and Previous Month's Opposite Sex Responsiveness. The second scale consisted of 16 items and was administered to 646 adolescents, comprising the latter two sub-groups referred to above. A Cronbach *alpha* coefficient of 0.82 was calculated indicating that this instrument also had very good internal consistency reliability. Once again similar factors with generally good internal consistency emerged in factor analysis suggesting that this too was a valid instrument. The factors that emerged from the second scale were Same Sex Responsiveness, Unattractive Opposite Sex Responsiveness, Attractive Opposite Sex Responsiveness and Attraction. Future

developments, adjustments and applications of the instruments as well as implications for the arena of sexual orientation research are discussed. In the light of the dearth of information with regard to the sexual orientations of South African adolescents the current study also briefly explored and presented the sample's responses in terms of the dimensions of each questionnaire as well as how each emerging factor related to the demographics (education level, gender, sexual orientation self-label and age) of the sample.

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CHAPTER 1

INTRODUCTION

Despite the fact that Kinsey began the process of developing a scientific measure of sexual orientation over 60 years ago researchers have largely failed to see the necessity of operationally defining such a concept. As a result psychological and psychiatric research has offered a wealth of conflicting, incoherent and disparate theories with regard to the aetiology, development, diagnosis, assessment, adjustment, attitudes towards and effects and implications of different 'sexual orientations' over the last few decades, without ever having reached consensus on what any of these terms actually refer to – operationally or conceptually (Shively, Jones, & DeCecco, 1984) or even whether any of these terms actually exist as valid concepts at all (Gonsiorek, Sell, & Weinrich, 1995; Stein, 1999). In addition, comparison is complicated by differences in emphasis and use of terms (Gerdes, 1988). The result is that most of these potentially far-reaching theories have been left either completely untested or inadequately substantiated and verified by broad-based empirical research.

This situation was created despite the warning from Henry, who conducted one of the most detailed studies on sexual orientation ever produced, in 1941 that "Unless the word homosexual is clearly defined, objective discussion regarding it is futile, and misunderstanding and erroneous conclusions are inevitable" (Henry, 1955). Parker (1977) also warned against a situation where a wealth of data is amassed concerning a phenomenon – in his case 'bisexuality' – the nature of which is never made explicit. Isaacs and McKendrick (1992) concur and add that many methodological and conceptual limitations mar even relatively recent studies on sexual orientation.

McGuigan (1990) states that it is unfortunate that much energy has been expended in arguing such questions in the absence of clear specifications of what is meant by crucial terms. He points out that one of the main reasons that many psychological research problems remain unsolvable is that their terms have been imported from everyday language which is replete with ambiguities and multiple definitions of any given word. He maintains that the importance of adequate definitions in science cannot be too strongly emphasized. According to him good definitions serve (1) to clarify the phenomena under investigation and (2) to facilitate communication in an unambiguous manner. He states that these functions are accomplished by *operationally defining* the empirical terms the scientist is dealing with. Essentially an operational definition is one that indicates that a certain phenomenon exists and does so by specifying precisely how (and preferably in what units) the phenomenon is measured. Once the method of recording and measuring a phenomenon is specified, that phenomenon is said to be operationally defined. Operationism (Nobel laureate P. W. Bridgeman's 1927 term) has been criticized because the operational definitions used are often specific to a particular empirical investigation. Variables specified in the statement of problems may be operationally defined in different ways by different experimenters even though they are identified by the same term. Different measures of any given term may or may not correlate with one another and although as McGuigan (1990) points out this is irritating, it is not insurmountable. He states that as we advance in our studies we could arrive at a fundamental definition which would encompass all the specific definitions, so that there would be one general definition that would fit all experimental usages.

The topic of sexual orientation has proven to be a highly emotive and politicised issue among psychological researchers (Greene, 1994; Kirk & Kutchins, 1992) while, not surprisingly, remaining one which has not been very well understood or effectively researched (Bem, 1993; Manosevitz, 1974; Stoller, 1985). Stein (1999) pointed out that fierce controversy arose over the nature of sexual orientation in the 1990's. He attributes this to scientific research, religious views, increasingly ambiguous gender roles and the growing visibility of sexual minorities.

Further complicating what has never been a clear area to begin with, many issues related to sexual identity are often confused with sexual orientation (Shively &

DeCecco, 1977). McConaghy and Armstrong (1983) refer to a semantic confusion surrounding the use of the terms sexual identity and role. Both sex roles and gender identity for example, are undergoing dramatic changes in contemporary society and existing conceptualisations are, therefore, requiring critical review (Gerdes, 1988). Societal changes concerning sexual orientation, itself, can be even more marked than these, as is evident in the legislative arena in South Africa, where homosexual behaviour became legal virtually overnight ("Gay men who fear persecution in their countries seek refuge in SA," 1999; Cock, 2003).

Recent developments in political, research, education and health arenas, however, have added impetus to the *empirical* investigation of sexual orientation as a concept, so as to facilitate effective interventions. As a result the *definition* of sexual orientations has increasingly become a central focus in research design debates and the need for extensive revision of the conceptualisation and measurement thereof has become increasingly evident (Gonsiorek, Sell, & Weinrich, 1995). Although researchers are, with increasing frequency, including sexual orientation as a demographic variable in studies, there *remains* a lack of published research into problems with its assessment for such a purpose (Sell, 1997). Berkey, Perelman-Hall and Kurdek (1990) concur that research into the *assessment* of sexual orientation has been very limited and point out that what does exist is often conflicting and confusing.

As Sell (1997) states "If advances in the understanding of sexual orientations are to be made, it is critical that definitions and measures of sexual orientation be standardized". And thus it is recommended that researchers work to develop both uniform conceptual definitions of terms used to label sexual orientations and that compatible methods of operationally identifying sexual orientations be agreed upon for use in research studies (Sell, 1997). Sell's point necessitates and presupposes the development of a *reliable* and *valid* measure of sexual orientation – one which he convincingly argues has not been developed yet. It is to contribute to this process that the current research study has been undertaken.

In order for such a tool to be developed in such a way as to facilitate comparison of a diverse array of research findings by various researchers from a variety of disciplines

and adopting a number of methodologies where obviously definitions and preferred terms vary significantly between studies and across time, it is necessary to review how sexual orientations have been conceptualised from a wide range of perspectives. In order to accomplish this, a review of historical, conceptual and operational understandings of sexual orientations was undertaken and is briefly presented in the following chapters.

CHAPTER 2

HISTORICAL UNDERSTANDING OF SEXUAL ORIENTATIONS

The purpose of this chapter is to provide a brief overview of the historical contexts within which sexual orientations have been conceptualised and to demonstrate the effect that these contexts had on the development of an understanding of what sexual orientation is. In doing this it should also serve to explain and illustrate the lack of progress in developing a clear understanding of and dearth of collectively useful information with regard to this concept at this point in time and hence the rationale for the development of a tool to remedy this situation.

Pre-Scientific Perspectives

Pre-literate Societies

To date any society's development and continued existence presupposes the presence of heterosexuality. Diamond (1984) states that no society has ever advocated homosexuality as the predominant mode of adult sexual activity, however, many have not paid it much attention and some have condoned or encouraged it for certain minority groups. In North African Siwan society, for example, all boys and men engage in anal intercourse and the Sambians of New Guinea undergo initiation into manhood rites that involve pre-pubertal initiates performing fellatio on adolescents. In such pre-literate societies ingestion of semen is believed to give rise to puberty and to boost strength and virility (Herdt, 1981; Money, 1990; Stoller & Herdt, 1985).

Of 193 different cultures studied in the 1960's by Murdock 14 percent rejected male homosexuality while 28 percent accepted it. In 58 percent of these cultures, male homosexuality was accepted under some circumstances and rejected under others. Of 225 American Indian tribes studied 53 percent accepted male homosexuality while 24 percent completely rejected it (Pomeroy, 1968).

Ford and Beach (1951) reviewed literature on 76 preliterate societies. In 64 percent of these, homosexual activity was regarded as normal and acceptable for some members of the group while 36 percent had sanctions against such behaviour.

Broude and Greene (1976) researched 70 non-European societies and found that homosexual behaviour was present but uncommon in 41 percent of the sample and that it was rare or absent in 59 percent of these societies. Of the 42 societies on which information was available on societal disapproval and punishment for homosexual behaviour, 41 percent exhibited this.

From a typical, dominant Western frame of reference it may be difficult to infer from these studies how sexual orientations are conceptualised by the societies concerned but it could appear that understanding of 'permanent' sexual orientations as opposed to manifest sexual incidents or behaviours, as occur within rites of passage, may be somewhat limited.

In contrast to this somewhat careless and dismissive conclusion, however, Garnets (2002) suggests that in finding a better framework for thinking about gender related issues, it is important to examine how other cultures have incorporated gender and sexual diversity into their traditions. She contrasts Native and Euro American notions of sexuality and gender and points to research done by Tafoya (1997) where it was reported that of the approximately 250 Native languages still spoken in the United States, at least 168 have terms for people who are not considered male or female. She suggests that sexual orientation conceptualisations may also be less based on linear (bipolar) ways of reasoning typical of Western thinking and more on circular ways of thinking where, theoretically, an infinite number of possible points of sexual identity may exist, in these non-Western cultures. She proposes that this serves as an excellent example of the ways in which other cultures can provide models of diversity that may prove more useful than the dominant Western models.

Classical Civilizations

A full spectrum of sexual orientations has been documented throughout recorded history (Conger, 1991). So, for example, from its inception, Western thinking has considered and debated the nature of various sexual orientations as evidenced by

some of its greatest minds and earliest writings (Grazioli, 1998; Diamond, 1984). Ancient Greek civilization, in the person of Aristotle, has also been credited with birthing the empirical method of acquiring knowledge (Isaacs & McKendrick, 1992). Early Western thinkers did not apply the latter to the former, however.

The Ancient Greek, as well as the subsequent Roman, Persian and Moslem civilizations all condoned a measure of homosexuality and the practice increased as these civilizations declined (NAMH, 1971). The ancient Greeks demonstrated a fairly sophisticated understanding of this concept as evident by the relatively extensive array of words conveying different ideas of homosexual acts and same sex attractions, such as *arsenokoitai* (“sodomites”), *malakoi* (“catamites”) and *arrenomanes* (“man mad”), *paiederastes* (“lover of boys”) and *paidophthros* (“corrupter of boys”) (Grazioli, 1998; Stott, 1985). They viewed homosexual behaviour as permissible and even desirable under certain circumstances. At one stage Greek soldiers were encouraged into homosexual relations with each other because it was thought they would fight more fiercely to protect their lovers (Churchill, 1967). There were groups which regarded homosexuality as a more exalted form of love than heterosexual relationships, in that it was strongly associated with spiritual, philosophical and intellectual pursuits as opposed to what they considered relatively mundane issues of procreating and establishing households (Pomeroy, 1968).

<u>The Middle Ages (500-1500 AD)</u>

Judeo-Christian sexual codes have been far more restrictive as far as sex in general is concerned and were based on the belief that all sexual behaviour that did not lead to procreation was to be condemned. This influence on Western culture was to irretrievably (at least in Roman Catholic doctrine) interlink procreation and sexual behaviour rather than consider procreation as a small fraction of 1 percent of sexual behaviour (Pomeroy, 1968). Despite this, and for the first 1000 years of the Christian era, homosexuality received a very varied and idiosyncratic reception. Greek and Roman writers as well as Middle Age chroniclers were not consistent, lucid or objective in their interpretations of several New Testament references to issues relating to homosexuality. Significantly, Stott (1985) points out that Biblical references are restricted to actual overt behaviours and those who perform these

rather than to sexual preferences, lifestyles or orientations. It is clear that no significant gains were made in understanding sexual orientations during this period and study thereof would have been strongly discouraged. The Roman Emperor Justinian decreed homosexual behaviour to be punishable by death and from 533 onwards this legislation was enforced throughout the Empire. Charlemagne later railed against homosexual practices, particularly amongst the clergy, but did not invent any new penalties. With the fall of the Roman Empire the influence of Christianity spread across Western Europe and popular religious beliefs were encoded into secular law (Diamond, 1984).

Medieval historians wrote of homosexuality flourishing in France and Norman England. For reasons few scholars agree on both religious and secular leaders became less tolerant of sexual variations and punishments for acts such as adultery and homosexuality included public ridicule, imposed fasting, property confiscation, torture, castration and death. Pope Gregory III was clear in his condemnation of homosexual activity in the eighth century. By the Crusades homosexual conduct was increasingly regarded as criminal and heretical (despite the fact that Richard Lionheart was homosexual). By the early thirteenth century it was termed ‘the crime not fit to be named’. Edward II (1284 – 1327) was the last openly homosexual medieval monarch and at this stage anti-homosexual sentiment was widespread and he was deposed and murdered. Boswell (1994) refers to Western culture’s horror of homosexuality since the fourteenth century. By the late Middle Ages most civil statutes throughout Western Europe contained penalties for non-procreative sexual acts involving the discharge of semen, including masturbation and even acts within marriages such as anal and oral sex. Homosexual behaviour would remain illegal in English Law for another six centuries although punishments would grow less severe.

Modern Era

Descriptions of Italian cities of the Renaissance (1500-1603) contain accounts of homosexual activities while Elizabethan England demonstrated a permissive attitude towards homosexuality (Conger, 1991). In Napoleon’s militia homosexual relationships were encouraged and gay clubs were fairly common in eighteenth century London while many American cities, such as New York, were hotbeds of homosexuality at the turn of the previous century.

In 1967, sixty years after Oscar Wilde was convicted of ‘gross indecency’ and following the Wolfenden Report of 1957, the British Parliament repealed the centuries-old laws against homosexuality, dropping homosexual acts amongst consenting adults, performed in private, from its code of punishable offences (Diamond, 1984). Illinois was the first state in the United States to repeal existing statutes against homosexual acts in 1961 and many other states soon followed suit (Conger, 1991). Many other countries, including Mexico, Canada, Holland, Italy, Spain, France, the Scandinavian countries and South Africa have since decriminalized same-sex sexual activities (Rathus, Nevid, & Fichner-Rathus, 1997). Such legislative changes have not only impacted on public opinions and perspectives on alternative sexual behaviours and hence lifestyles but have also facilitated and advanced empirical studies into these areas. Patterson (1995) points out that as lesbians, gay men and bisexual people become more open about sexual identities, psychological knowledge with regard to issues relating to sexual orientation is growing rapidly.

Scientific Perspectives

Early Approaches

Early medical and scientific approaches to understanding sexual behaviour were heavily influenced by religious doctrines and by prevailing cultural values. As seen above the exclusive purpose of sexual behaviour was assumed to be biological reproduction and anything that varied from that was considered to be a form of psychopathology (Oltmanns & Emery, 1995).

Early efforts to develop a classification system for sexual problems were primarily concerned with the definition of ‘normal’ behaviour (Oltmanns & Emery, 1995). As Diamond (1984) points out the word ‘normal’ to scientists implies ‘most common’ with no connotations of health or sickness, right or wrong. Similarly, the terms ‘deviant’ and ‘abnormal’, in the scientific sense, simply mean ‘unlike the majority’ not unhealthy, unacceptable or unnatural. The most influential of these early systems was Richard von Krafft-Ebing’s classification of ‘sexual neuroses’. The bulk of his manual was devoted to the so-called perversions, especially sadism, masochism,

fetishism and homosexuality. He emphasized that sexual impulses needed to be severely restricted (Oltmanns & Emery, 1995).

Many crucial changes occurred in the way Western society viewed sexual behaviour between 1890 and 1930. No longer was it seen as solely having a procreative function. Fostering marital intimacy and providing pleasure were increasingly regarded as being important purposes of sexual behaviour. Hindrances to these goals became a legitimate topic of scientific enquiry. Changes in prevailing social attitudes led to a change in the focus of systems for the classification of sexual problems. Over the course of the twentieth century the trend has been towards greater tolerance of sexual variations among consenting adult partners and towards increased concern about impairments in sexual performance and experience (Oltmanns & Emery, 1995).

This trend was given impetus by Freud's *Three Essays on the Theory of Sexuality* which was published in 1905. He argued that sexual impulses were amongst the most salient motivational factors evident in children and adolescents. In stark contrast to Krafft-Ebing, Freud emphasized that psychological problems can result from attempts to deny or repress sexual urges (Oltmanns & Emery, 1995).

Havelock Ellis, the leading figure in the study of sexual behaviour at the turn of the twentieth century and widely regarded as the first sexual modernist, also had a major impact on academic attitudes towards sexual matters and hence on the study of these. He argued against the stigma that his contemporaries associated with homosexual behaviour and masturbation.

Empirical Research

While theories of and research into sexual orientation proliferated since the 1860's, in the form of clinical case studies, the *scientific measurement* thereof only gained major impetus with the work of Kinsey, 80 years later (Weinrich et al., 1993). This delay has been partly explained by the fact that for a lengthy period after the rapid acceleration of the utilisation of scientific methods of investigation which commenced over the previous century, several aspects of human behaviour received no *systematic* attention from data-gatherers. Sexuality, a distinctly taboo topic from

Victorian times (1832-1914), was a primary example of such a neglected aspect (Isaacs & McKendrick, 1992). Kinsey adopted a behavioural stance and his research largely ignored subjective experience. His findings resulted in him rejecting the distinction between normal and abnormal sexual behaviour, arguing that differences among people are quantitative rather than qualitative in nature. He saw the distinction between heterosexuals and homosexuals as being essentially arbitrary and fundamentally meaningless (Oltmanns & Emery, 1995).

The *Diagnostic and Statistical Manual of Mental Disorders*, first introduced in 1952, was to have a major impact on psychological and psychiatric research. Its first editions, while not defining or providing diagnostic criteria for homosexuality, had a particularly and profoundly negative effect on understanding of homosexuality over the first two decades of the publication's existence. The descriptions of sexual disorders in the first and second editions of the *DSM* (1952, 1968) were more influenced by prevailing psychodynamic theory of the time than by scientific data and attitudes expressed by scientists such as Kinsey and this would have indubitably had an effect on how researchers understood, conceptualised and, therefore, defined sexual orientation (Buhrke, Ben-Ezra, Hurley, & Ruprecht, 1992).

In *DSM-I*, sexual deviations were listed together with antisocial personality disorder. In the first six publications of the *DSM-II*, sexual deviations were listed along with alcoholism and drug dependence under the general heading "Personality Disorders and Certain Other Non-psychotic Mental Disorders". The psychiatric community, heavily influenced by the psychoanalytical school had, by definition and in contrast to its founder, Sigmund Freud, maintained that homosexuality was a mental disorder (Roughton, 2002; Oltmanns & Emery, 1995).

An emphasis on understanding mental disorder as behaviour that was accompanied by subjective distress or a general impairment in social effectiveness or functioning gained increasing consideration (Kirk & Kutchins, 1992). The American Psychiatric Association voted that homosexuality per se is not a mental disorder in April 1974 and created the new category of 'Sexual Orientation Disturbance' which they defined as follows:

> This category is for individuals whose sexual interests are directed primarily toward people of the same sex and who are either disturbed by, in conflict with, or wish to change their sexual orientation. This diagnostic category is distinguished from homosexuality, which by itself does not necessarily constitute a psychiatric disorder. Homosexuality per se is one form of sexual *behaviour* and, like other forms of sexual *behaviour* which are not by themselves psychiatric disorders, is not listed in this nomenclature of mental disorders.

In *DSM-III* Sexual Orientation Disorder was omitted and replaced with a classification of 'Ego Dystonic Homosexuality' which was given the following diagnostic criteria:

> A. The individual complains that heterosexual arousal is persistently absent or weak and significantly interferes with initiating or maintaining wanted heterosexual relationships.
> B. There is a sustained pattern of homosexual arousal that the individual explicitly states has been unwanted and a persistent source of distress.

In doing so the *DSM-III* distinguished between ego-dystonic and ego-syntonic homosexuality, a differentiation which may have added to the growing confusion in how to define sexual orientation (Mishne, 1986).

In 1986 the APA voted to drop homosexuality from the *DSM-III-R* altogether and to include a new category, "Psychosexual Disorder Not Otherwise Specified," for persistent and marked distress or confusion about one's sexual orientation (Bootzin, Acocella, & Alloy, 1993). The word 'homosexuality' is not found in the *DSM-IV* (1994) but the category "Persistent and Marked Distress about Sexual Orientation" seems to pertain more to anxiety over being homosexual than heterosexual (Wilson, Nathan, O'Leary, & Clarke,1996). Oltmanns and Emery (1995) point out that the revisions in the *DSM* reflect several significant changes in society's attitude towards sexual behaviour such as:

- Growing acceptance by women of their own sexuality
- Increased recognition that the main purpose of sexual behaviour need not be reproduction
- Tolerance for greater variety in human sexuality
- The influence of organized groups, representing specific forms of sexual orientation and expression

These shifts in society have also impacted directly on the study of sexual issues in general and of sexual orientations in particular, with subsequent increases in the amount of research being carried out in these areas. The year 1969 marked the beginning of a proliferation of published research on sexual orientation (Shively, Jones, & DeCecco, 1984). Unfortunately, the definitions and measurement tools used since then resulted in the selection of divergent and incomparable samples (Sell, 1997). An extensive survey of research literature revealed that only a minority of the studies ever actually explicitly defined sexual orientation (fewer than 20% of these studies used Kinsey's sexual orientation scale) and as a result a wide divergence in definitions and perplexing array of meanings was evident.

CHAPTER 3

OVERVIEW OF CONCEPTUAL DEFINITIONS

Having examined the historical contexts which have contributed to the understanding (or lack thereof) of sexual orientations to date, in the previous chapter, it is evident that the conceptualisation and scientific study of sexual orientations is a relatively modern phenomenon which has not yielded satisfactory results as yet. It is useful, in this chapter, to examine the existing conceptualisations of sexual orientations so as to be able to understand how these undergird and impact on the operational definitions of sexual orientation which have been developed over the last few decades so that a relevant, improved and more useful measure than has been produced thus far can be developed.

Early conceptualizations

Richardson's (1984) examination of the literature on homosexuality revealed a long history of definitional crises. She identified various approaches evident in the literature in her attempt to ascertain what could be considered essential to the homosexual category. She found that homosexuality had been viewed as a:

- a general state of being (the person)
- a state of desire (sexual orientation)
- a form of behaviour (sexual acts)
- a personal identification (sexual identity)

In exploring the interrelationships between these categorizations she came to question the assumption that people are essentially homosexual or heterosexual at all.

Sell (1997) states that many different terms and definitions have been proposed over the last 130 years to describe the sexual orientation of subjects, beginning with that of Kardy Maria Benkert, the German-Hungarian physician and writer who is

attributed with first coining the term ‘homosexual’ (in a letter dated 6 May 1868 to Karl Ulrichs). The word was a combination of the Greek word *homos* (meaning ‘same’, not the Latin *homo* meaning ‘man’ as is often misconstrued to be the case) and the Latin word *sexualis*. Benkert provided the first critical explanation of sexual behaviour in response to Napoleonic alteration of sexual laws which placed same sex behaviour on an equal footing with opposite sex behaviour. Benkert offered the following definition of this concept:

> In addition to the normal sexual urge in man and women, Nature in her sovereign mood has endowed at birth certain male and female individuals with the homosexual urge, thus placing them in sexual bondage which renders them physically and psychically incapable – even with the best intention – of normal erection. This urge creates in advance a direct horror of the opposite sexual [sic], and the victim of this passion finds it impossible to suppress the feeling which individuals of his own sex exercise upon him (cited in Robinson, 1936).

Karl Henrich Ulrichs, the German lawyer who started the formal study of sexual orientations, came up with the notion of a ‘third sex’. He preferred not to use the terms ‘homosexual’ and ‘heterosexual’ and instead developed his own sexual orientation classification scheme which is depicted below and adapted from Carpenter (1908):

A. Dioning (male heterosexual) / Dioningins (female heterosexual)
    1. Uraniaster (heterosexual that sexually behaves like a homosexual)
B. Urning (male homosexual) / Urningins (female homosexual)
    1. Mannling (manly homosexual)
    2. Weibling (effeminate homosexual)
    3. Zwischen (somewhat manly, somewhat effeminate homosexual)
    4. Virilised (homosexual that sexually behaves like a heterosexual)
C. Urano-dioning (bisexual)

Ulrichs strongly influenced subsequent early sexual orientation researchers such as Westphal (1869), Symonds (1883, 1891) (who, according to Boswell (1981) possibly

introduced the term ‘homosexual’ to English speakers in 1891), Krafft-Ebing (1886), Moll (1891), Carpenter (1894, 1908), Mayne (1908), Ellis and Symonds (1896) and Hirschfeld (1914) (Isaacs & McKendrick, 1992; Sell, 1997) and is thereby credited with influencing such luminaries as Freud and Jung (Bullough, 1994).

Kinsey et al. (1948) extracted the following terms from these researchers’ works which were used at various times to describe homosexuality and serve to illustrate the lack of coherence and comparability which has resulted from their efforts:

- uranianism
- homogenic love
- contrasexuality
- homo-erotism
- similsexualism
- tribadism
- sexual inversion
- intersexuality
- transexuality
- third sex
- psychosexual hermaphroditism

Current conceptualizations

Sell (1997) found that although current preferred terms pertaining to sexual orientation in the literature have a wide variety of definitions they generally comprise one or both of two components: a ‘psychological’ component and a ‘behavioural’ component. The earliest definitions, those of Benkert and Mayne (1908), only included the psychological component. Ellis, one of the most important writers on sexuality at the turn of the last century, also only included a psychological component when he defined homosexuality as “sexual instinct turned by inborn constitutional abnormality toward persons of the same sex” (Ellis & Symonds, 1896). Krafft-Ebing (1886) explicitly excluded the behavioural component from his definition of homosexuality when he stated that “the determining factor here is the

demonstration of perverse feelings for the same sex; not the proof of sexual acts with the same sex. These two phenomena must not be confounded with each other."

Sell (1997) also cites examples that only include the behavioural component including that of Beach (1950) who emphatically omits the psychological component: "Homosexuality refers exclusively to overt behaviour between two individuals of the same sex. The behaviour must be patently sexual, involving erotic arousal and, in most instances at least, resulting in the satisfaction of the sexual urge." Feldman and MacCulloch (1980) suggest that the least contentious definition is: sexual behaviour between members of the same sex, accompanied by sexual arousal, carried out recurrently and despite the opportunity for heterosexual behaviour. Less discriminating is Denniston (1980) who states that "homosexuality = sexual behaviour with a member of the organism's own sex." Bieber did not diagnose patients as homosexual unless they had engaged in overt homosexual behaviour (McIntosh, 1968). Critical of this approach, Grahn (1984), states somewhat colourfully that he has "always been bothered by the definition of homosexuality as behaviour. Scratching is behaviour. Homosexuality is a way of being, one that can completely influence a person's life and shape its meaning and direction." Diamond (1993) states that it is this type of definition that has been used by researchers determining the size of 'homosexual' populations in various countries. Rothblum (1994) states that it is important to emphasize that just as people engage in same-gender sexual behaviour but do not identify themselves as gay or lesbian, so several people who self-identify as lesbian or gay, including those who are active in the lesbian and gay communities, do not engage in same-gender sexual behaviours. She referred to studies which found that 35 percent of lesbian women were celibate for periods ranging from 1 to 5 years.

Sell (1997) found that more recent definitions often include both components. He gives examples of LeVay (1993) who defined sexual orientation as "the direction of sexual feelings or behaviour toward individuals of the opposite sex (heterosexuality), the same sex (homosexuality), or some combination of the two (bisexuality)"; Weinrich (1994) who defined homosexuality as "either (1) as a genital act or (2) as a long-term sexuoerotic status" and that of *A Descriptive Dictionary and Atlas of Sexology* (Francoeur et al., 1991) where homosexuality is defined as "the

occurrence or existence of sexual attraction, interest and genitally intimate activity between an individual and other members of the same gender."

DeCecco's (1981) comprehensive definition of sexual orientation refers to the individual's physical sexual activity with, interpersonal affection for and erotic fantasies about members of the same and/or other biological sex. He further defines *physical sexual activity* as designating the individual's erotic body contact with one or more persons which may or may not include genital contact. *Interpersonal affection* refers to associations, involving varying degrees of love or trust, with co-workers, friends, lovers and marital partners which may or may not include physical sexual activity. *Erotic fantasies* refer to the individual's mental images of one or more persons engaged in physical sexual activity or involved in idealized affectional (romantic) relationships. DeCecco's is one of the most thorough conceptual definitions presented in the literature to date and according to his research this view of sexual orientation reduces confusion rampant in most lay and clinical discussions of homosexuality (DeCecco, 1981).

Recently a challenge to the essentialist conceptualizations of sexual orientations which have been predominant has occurred. Golombok (1996) points out that social constructionist theories start from the premise that sexual feelings are not essential qualities that the individual is born with or that are socialised by childhood experiences. These approaches share an emphasis on the individual's active role, guided by culture, in structuring reality and creating sexual meanings for particular acts. They view sexual identity as being individually constructed throughout the life course with individuals first becoming aware of cultural scenarios for sexual encounters and then developing internal fantasies associated with sexual arousal and interpersonal scripts for orchestrating specific sexual acts.

Horowitz and Newcomb (2001) note that most of the existing developmental stage models of homosexual identity fail to consider the wide diversity of human sexual experience. They point out that these models stem from an essentialist perspective which assumes that the process of homosexual identity formation is largely a matter of becoming aware of one's underlying or 'real' sexual orientation. They focus on the significant number of people for whom the stage models are inadequate in

describing the development of their sexual identities. They contrast the essentialist perspective underlying these models with the social constructionist perspective which holds that the process of identity formation is a continual, two-way interactive process between the individual and the social environment and that the meanings the individual gives to these factors influence the development of self-constructs and identity. According to this perspective sexual identity develops within this contextual framework and, because it is influenced by continual interaction, is fluid over time and experience throughout the lifespan. They therefore suggest a multidimensional approach to sexual identity development which looks at desire, behaviour and identity as three separate constructs related to sexual identity.

In discussing how sexual orientation should be conceptualised Garnets (2002) contrasts an old paradigm with a new one which she states advances our understanding.

Firstly, she states that the old paradigm viewed sexual orientation as a dichotomous construct that exists only in two opposite, discrete categories. The new paradigm conceptualises sexual orientations as flexible, complex and multifaceted with attraction to males and attraction to females conceptualised as two separate and independent dimensions allowing for a spectrum of distinct sexual orientations that differ in degree and intensity.

Secondly, she states that the old paradigm assumed that sexual behaviour is the defining feature of a person's sexual orientation. The new paradigm encompasses not only sexual behaviour but also erotic-affectional behaviours and fantasies, emotional attachments, self-identification and current relationship status.

Thirdly, the old paradigm assumes a congruence among sexual identity, behaviour and desire whereas the new paradigm allows for inconsistency between these factors.

Fourthly, the old paradigm asserted that sexual orientation is an enduring disposition that forms at an early age and is then fixed and unchanging. She states that sexual development research has suggested that sexual orientation may be fluid and

changeable over time although such fluidity appears to be more characteristic of women than of men (Baumeister, 2000).

‘Types’ of Homosexuality

Adding to the complexity and hence the difficulty of defining sexual orientation generally, and homosexuality, specifically is the fact that numerous “types” of homosexualities (besides the ego-syntonic and ego-dystonic varieties added by the DSM) have been identified which would need to be accounted for or discounted in any thorough attempt to define such a concept.

Defries (1976) described what he termed ‘pseudohomosexuality’ in female college students. He typified pseudohomosexuals as adolescents who were struggling to make attachments and resolve identity conflicts and who, therefore, combined ideological and political feminist issues with sexual identity issues. This resulted in a significantly sized and specific heterosexual population which appeared to maintain a homosexual public position over a protracted number of years. For some this would prove to be permanent and for others it would be a form of adolescent experimentation.

Feldman and MacCulloch (1980), in pointing out that homosexuals are not a homogeneous group, consider several classificatory systems. They state that the most valuable, in terms of both explanation and description is the one which differentiates between primary and secondary homosexuals. They do admit, however, that the distinction between the two groups may not be as clear as the terms imply. Primary homosexuals have never experienced heterosexual arousal and have only experienced heterosexual activity occasionally and then only for appearances or to put their ‘true’ sexual preference to the test. Secondary homosexuals have experienced noticeable heterosexual arousal usually together with some heterosexual activity. The major distinction is in the heterosexual area and they are not distinguished by their homosexual behaviour. These authors point out that most research studies compared homosexuals with heterosexuals as if the former were a homogeneous group. They predict that if their dichotomy is correct many of the existing studies would report conflicting and confusing results on certain

variables such as serum hormone levels. Interestingly they also postulate that primary homosexuals may be accounted for more in terms of biological influences whereas with secondary homosexuals, social learning influences may account for a greater proportion of the aetiology. Dawood et al. (2000) found that gay brothers were similar in their degree of childhood gender nonconformity, consistent with prior findings using twins, and suggested that this variable may distinguish etiologically (e.g. genetically) heterogeneous subtypes. Interestingly, Dunne, Bailey, Kirk and Martin (2000) found a continuous measure of childhood gender nonconformity (CGN) to be sensitive to slight variations in homosexual attraction and behaviour. In particular among males and females who identified as heterosexual, they found significant differences between “complete” heterosexuals and those who admitted to only one or a few same-sex behaviours but no homosexual attraction. They also found that among men CGN scores distinguished between heterosexuals who admitted to same-sex behaviour only and those who admitted to some homosexual attraction.

Rado (1956) distinguished five types of (male) homosexual behaviour as follows:

(1) situational homosexuality – indulged in because females are not available
(2) incidental homosexuality – transitory and sporadic (pre- and adolescent)
(3) disorganised schizophrenia – expression of chaotic behaviour
(4) “surplus variation” – expression of curiosity and wish for diversity
(5) reparative homosexuality – adaptive response to hidden but incapacitating fears of the opposite sex

Shulze and van Rooyen (1990) suggest that there are seven types of homosexuality but their classification overlaps substantially with that of Rado although they supply different labels to some of his categories such as situational homosexuality, experimental homosexuality, preference homosexuality, neurotic homosexuality and what they term “Real (compulsive) homosexuality” as well as “Homosexuality as a result of social requirements”, or what Herdt (1984) refers to as “ritualized homosexuality”, which accounts for community prescribed homosexual activities which occur in certain cultures, for example in New Guinea.

Considerably less helpful to developing a common and rigorous understanding was the binary classification presented by Fisher (1984) in a nursing text book which failed to discount long since discredited popular myths surrounding the issue of homosexuality:

> There are two kinds of homosexuals. The active plays the part of the male; the passive plays the part of the female. Thus the active male homosexual, although he prefers the company of males, may be outwardly no different from other men, and may even be more 'masculine' than the average man… It is the passive male who acts like a female…Clearly not all these homosexuals are overt hermaphrodites.

Clearly one would expect fairly idiosyncratic responses to any survey given to nurses 'educated' by means of such texts.

Latent homosexuality is yet another term that has been used to describe a variant of homosexuality. This term has a dubious theoretical basis (Freud's largely discredited theory of psychic bisexuality) assuming that vestiges of an original homosexual phase of development remain in all persons and are manifested in sublimated form in tender feelings toward members of one's own sex and in certain psychic patterns stereotypically associated with the opposite sex. It is associated with some questionable clinical inferences such as the syndrome of homosexual panic which Ovesey (1965) suggests is better described as 'pseudohomosexual anxiety' as it is more often than not related to profound feelings of masculine inadequacy rather than repressed homoerotic tendencies (Freedman, Kaplan, & Sadock, 1975).

Bisexuality

According to Moore (2000) a long-standing controversy has existed with regard to how bisexuality should be conceptualised. MacDonald (1981) pointed to the fact that at that point very little research on bisexuality existed and warned that scientists were confounding their research on homosexuality by listing large numbers of bisexuals as homosexual in their studies. MacDonald examined the following 4 common beliefs concerning bisexuality:

- bisexuality as real and natural
- bisexuality as transitory (the bisexual will return to his/her original orientation)
- bisexuality as transitional (the bisexual will become exclusive at the orientation opposite to his/her original orientation)
- bisexuality as homosexual denial

MacDonald (1983) found that bisexuals often differ significantly from homosexuals and heterosexuals. Snyder, Weinrich and Pillard (1994) found homosexual and bisexual men indistinguishable in terms of biochemical measures of lipid levels and both these groups significantly different to heterosexual subjects. The bisexual men were different from subjects in the other 2 groups, however, in terms of scoring lower on the ego strength scale and with regard to self-reports of being more troubled, lonely and depressed. Bronn (2001) failed to duplicate findings that bisexuals have low self-esteem and quality of life problems.

Guidry (1999) pointed out that many clinicians, situated in cultures which privilege dichotomous understandings of sexual orientation, are often challenged by the complex issues presented by bisexual clients. She believed that an expanded and contextualised understanding of bisexuality would inform more effective interventions with the often unique clinical concerns presented by this frequently marginalized population. Amestoy (2001) recommended incorporation of diverse conceptualizations of the meaning of bisexuality into mental health practice.

Moore (2000) empirically investigated the theoretical assumptions underlying 2 models which emerged as attempts to explain the nature of bisexuality. These models were termed the flexibility and conflict models respectively. She found that bisexuals failed to perform significantly higher on measures of flexibility than heterosexual and homosexual subjects. She also found that bisexuality does not inevitably lead to sexual identity conflict and her findings supported a non-dichotomous view of sexuality which included homo-, hetero- and bisexuality and the possibility of eroticizing 2 opposites (e.g. male/female) simultaneously. McConaghy and Armstrong (1983) actually found that subjects in their study who were aware of a

homosexual component in themselves answered the items investigating their sexual identity with greater consistency than did those who were unaware of a homosexual component.

Bronn (2001) found that although many bisexuals have conflicts or are in transition moving up and down a continuum over time, many identify consistently as bisexual over a long stable period. One-way ANOVA and chi-square tests revealed that bisexual self-identity and behaviour images reflected changes and variation *within* the bisexual orientation.

Weinrich and Klein (2002) asked whether heterosexuals, bisexuals and homosexuals were arbitrary divisions on a continuum of sexual orientation or whether people should be divided into discrete categories. They performed a cluster analysis of the Klein Sexual Orientation Grid in order to address this important question. They chose the following 5-cluster classification:

- Heterosexual
- Bi-Heterosexual
- Bi-Bisexual
- Bi-Homosexual
- Homosexual

They then tabulated means and standard errors for KSOG items by cluster membership. Their study identified clusters, in both male and female samples, which clearly related to sexual orientation. However, their study also showed that sexual orientation is not a unitary, one-dimensional construct.

Current popular terms

Sell (1997) states that even today terms for describing sexual orientations take on new meaning and importance. These need to be considered by researchers as the subjects or respondents may very well have different interpretations of and reactions to such terms depending on, for instance, their age or geographical background.

Donovan (1992) found that common terms such as ‘homosexual’, ‘homosexuality’ and ‘gay’ each present their own problems for gay and lesbian studies. He made an attempt to establish definitional boundaries for each of these terms in the belief that a purely theory-generated definition is in this case inferior to one based on the way the word is used by those most directly concerned – those who live with these terms as labels.

Sell (1997) cites the term ‘queer’ as an example which Legman (1941) defined as “Homosexual; more often used of male homosexuals than of Lesbians. As an adjective it is the most common used in America.” At that time it was regarded as slang and used pejoratively. In the 1990’s he states that the term, while still meaning ‘homosexual’, is frequently used nonpejoratively in scholarly works and cites numerous examples. In contrast Donovan (1992) states that the term ‘queer’, by design (Heller, 1990) and by inference (Elton, 1990), includes *both* males and females. This word was found to elicit mixed reactions due to its past negative and present politically radical connotations.

Donovan (1992) found that the word ‘gay’ seems to have acquired a gender marking of +male and that it has a connotation of a life-style that goes beyond and is not limited to sexual behaviour. He draws the following conclusions:

> ‘Gay’ as a noun refers to homosexuals who share social and psychological attributes such as positive self-identity (as far as their sexual orientation is concerned)
>
> ‘Gay’ as an adjective should modify only such nouns as are consistent with the future explicated psychological and socially-oriented qualities. Predominant use is expected with social institutions and objects which imply the existence of such institutions.

Equally disparate are the definitions of the term ‘homosexual’ with one author suggesting that clarity can only be achieved “if we conclude that there is no such *thing* as a *homosexual*” (Pattison, 1974). Donovan (1992) found the word ‘homosexual’ elicited a pattern of emotional reaction from members of that subject

population and, therefore, suggested that researchers use the term sparingly or risk inadvertently communicating a negative attitude towards the subject's lifestyle. The word is, however, widely associated with scientific writing and technical/legal and academic jargon. A conundrum for researchers is that the linguistic style of their professional medium converges with that of the gay community's antagonists. The use of this word could also be expected to elicit negative or guarded reactions from other groups included in more general sexual orientation investigations or research. He settled on the following definitions of this term:

> 'Homosexual' as an adjective should be restricted to overt acts and behaviours, particularly those either overtly sexual or intended to result in such (homosexual cruising, homosexual rape). It should be applied only to those psychological and social dimensions which pertain immediately to or otherwise motivate sexual behaviours (homosexual orientation, homosexual interest). Words which imply more than sexual activity (community, lifestyle, church) should not be modified by 'homosexual'.
>
> 'Homosexual' as a noun refers to persons practicing homosexuality who are also knowledgeable and proficient in the cultural or subcultural expectations of appropriate behaviours associated with homosexual activities. Examples of these might include cruising in styles acceptable and effective for various settings, and knowing where cruise spots are located. This word does not imply any etiological theory or psychological states (e.g., that the person has a particular kind of self-concept or identity); these extra meanings should be ascribed through adjectives (preferential homosexual, compulsive homosexual).

He goes on to delineate the definitional boundaries of 'homosexuality' as follows:

> 'Homosexuality' refers *only* to overt sexual activity between actors of the same sex, and conveys no new information about psychological states or social meanings. Only with this stipulation can *homosexuality* be meaningfully applied to other animals besides humans (Ford & Beach, 1951; Weinrich, 1976).

Although he offers no suggestions for the definition of the term ‘lesbian’ he does find that this term suffers from similar confusion to those he attempts to address above:

> In defining lesbianism we can offer four possible positions, in order of increasing breadth. First, lesbianism could be defined in a strict way as genital sexuality between two people with female genitals. Secondly, we could define as lesbian any strong relationship between women with at least a *possibility* for such genital sex. … Thirdly, we could call lesbian any intense relationship or primary commitment between women that they subjectively experience as “love”…, even if genital sexuality is not even a possibility. Finally, *any* affectional interaction between women … might be considered lesbian – one feminist has argued that since every daughter loves her mother, all women are lesbian (Feinbloom, Fleming, Kijewski, & Schulter, 1976).

He points out that this quote builds from the narrow to the broad but also illustrates the progression from the useful to the meaningless. Definitions without any guidelines or standards such as “a lesbian is anyone who says she is” (Lockard, 1985) do more methodological harm than good.

Cognisance must be taken of modern conceptualisations of sexual orientations, in all their disparate contexts and with all their often irreconcilable and idiosyncratic nuances in order to identify common threads and patterns so that a comprehensive and rigorous perspective of sexual orientation can be formulated to serve as a practically strong and theoretically sound basis for the development of a good operational definition or measurement tool. The overview in this chapter has sought to provide such a perspective.

CHAPTER 4

OVERVIEW OF OPERATIONAL DEFINITIONS

Although sound conceptual definitions form the basis of any operational definition or measure of sexual orientation, an examination of the *existing* operational definitions, and particularly a critical analysis of their relative strengths and weaknesses, also needs to be considered in the development of a new and improved measurement tool. This is particularly the case if such a tool is to prove useful to a wide range of researchers and practicable in terms of facilitating an understanding of extant research. It is also an essential step if the proposed measurement tool is to retain and combine the useful aspects of the existing measures while simultaneously neutralising their respective deficits so as to offer researchers a superior measurement device. It is the purpose of this chapter to present and discuss these measures as identified in the published research on sexual orientation.

Dichotomous Measures

Sell (1997) identifies some of the earliest records of assessment of sexual orientation as belonging to the Roman Catholic Church. These lists of questions served to aid individuals in the process of confession and examples are found in De Pareja's book *Confessionario* (Katz, 1992):

(1) Have you had intercourse with another man?
(2) Or have you gone around trying out or making fun in order to do this?
(3) Has someone been investigating you from behind?
(4) Did you consummate the act?

Ulrichs' (1994) questions used to determine if a man was an Urning included the following:

(1) Does he feel for males and only for males a passionate yearning of love, be it gushing and gentle, or fiery and sensual?
(2) Does he feel horror at sexual contact with women? This horror may not

always be found but when it is found, it is decisive.

(3) Does he experience a beneficial magnetic current when making contact with a male body in its prime?

(4) Does the excitement of attraction find its apex in the male sexual organs?

Mayne's (1908) formulated several hundred questions for the personal diagnosis of Urnings which included:

(1) At what age did your sexual desire show itself distinctly?

(2) Did it direct itself at first most to the male or to the female sex? Or did it hesitate awhile between both?

(3) Is the instinct unvaryingly toward the male or female sex now? – or do you take pleasure (or would you experience it) with now a man, now a woman?

(4) Do you give way to it rather mentally or physically? Or are both in equal measure?

(5) Is the similisexual desire constant, periodic or irregularly felt?

(6) In dreams, do you have visions of sexual relations with men or women, the more frequently and ardently?

Sell and Petrulio (1995) point out that in these early examples of assessments respondents would be required to provide a yes or no answer. This results in a categorization of homosexual (or equivalent) or not. Such simple dichotomous schemes for the classification of sexual orientations remain popular currently despite the fact that more sophisticated measures have been produced and proposed for over half a century already. Such terms lack both specificity and consensus in terms of their definitions resulting in a confounding of comparative research and cumulative understanding (Donovan, 1992).

The Kinsey Scale

Kinsey made the first advance over the popular binary categorization (Weinrich et al., 1993). The Kinsey Heterosexual-Homosexual Scale (KHHS) (Kinsey, Pomeroy, & Martin, 1948) introduced the then revolutionary notion of a single continuum and challenged the dichotomous, mutually exclusive view of a typological conceptualization of sexual orientation (Hyde, 1994) allowing for the fact that various *degrees* of homosexuality might exist (Moberly, 1983).

Figure 1. The Kinsey Heterosexual-Homosexual Scale (KHHS)

0	**Exclusively heterosexual-** Individuals who make no physical contacts which result in erotic arousal or orgasm, and make no psychic responses to individuals of their own sex.
1	**Predominantly heterosexual / only incidentally homosexual-** Individuals who have only incidental homosexual contacts which have involved physical or psychic response, or incidental psychic response without physical contact.
2	**Predominantly heterosexual but more than incidentally homosexual-** Individuals who have more than incidental homosexual experience, and / or if they respond rather definitively to homosexual stimuli.
3	**Equally heterosexual and homosexual-** Individuals who are about equally homosexual and heterosexual in their overt experience and / or their psychic reactions.
4	**Predominantly homosexual but more than incidentally heterosexual-** Individuals who have more overt activity and / or psychic reactions in the homosexual, while still maintaining a fair amount of heterosexual activity and / or responding rather definitively to heterosexual contact.
5	**Predominantly homosexual / only incidentally heterosexual-** Individuals who are almost entirely homosexual in their overt activities and / or reactions.
6	**Exclusively homosexual-** Individuals who are exclusively homosexual, both in regard to their overt experience and in regard to their psychic reactions.

Criticisms of the Kinsey Scale

As an alternative to the previous assessment measures the KHHS is not without problems, however. Three major criticisms have been levelled at the KHHS:

Firstly, the Kinsey Scale forces the artificial combination of psychological (covert) and behavioural (overt) components of sexual orientation and in so doing lumps individuals who are significantly different based upon different aspects or dimensions of sexuality into the same categories (Sell, 1997; Weinrich et al., 1993; Weinberg, Williams, & Pryor, 1994). In fact Kinsey did take these two dimensions into account when *applying* his scale but despite the fact that a dual basis was used, a single rating was assigned to each individual. He suggested that in the majority of instances overt sexual experience and psychosexual reactions paralleled each other in the history but conceded that they were not always in accord. In cases where this proved to be the case the individual's rating was based on an evaluation of the relative importance of the overt and the psychic in the history (Kinsey et al., 1948). In fact Kinsey himself recorded that 13 percent of his white male subjects had reacted erotically to other males without having overt homosexual experiences after the onset of adolescence. Berkey, Perelman-Hall, and Kurdek (1990) found that the frequency of the cognitive/affective dimension of sexuality was greater than the behavioural dimension as did Ellis, Burke, and Ames (1987) and McConaghy (1987). Anna Freud and Kinsey both regarded the measure of sexual fantasies as being a superior way of determining and measuring sexual orientation as opposed to measuring it in terms of overt behaviour (Klein, Sepekoff, & Wolf, 1985). Storms (1981) reiterated the proposition that the content of an individual's erotic fantasies and the erotic stimuli that are sexually arousing to an individual (an individual's erotic orientation) form the core psychological dimension underlying sexual orientation. Leitenberg and Henning (1995) point out that sexual fantasies are nearly universally experienced, with 95 percent of both women and men reporting experiencing some sexual fantasy at some point in their lives. Retrospective studies suggest that the mean ages at which adults recall experiencing their first sexual fantasy are approximately 11 to 13. They can affect later sexual behaviour as well as reflect past experience (Eisenman, 1982; Malamuth, 1981). In addition sexual fantasies are private and do not depend on the participation of a partner and may therefore be

more revealing than actual behaviour (Ellis & Symons, 1990). It should be noted that fantasy, in general, and sexual fantasy, in particular, are not easily defined or measured. A fantasy (or daydream – the two are not normally distinguished) is considered an act of the imagination, a thought that is not simply an orienting response to external stimuli or immediately directed at solving a problem or working on a task. They can be elaborate stories or fleeting thoughts, involve bizarre imagery or be quite realistic, involve actual memories, altered and edited versions thereof or be completely fictional, occur spontaneously or be intentionally imagined or be provoked by other thoughts, feelings or sensory cues. Sexual fantasies can occur outside of sexual activity or they can occur during masturbation or during sexual contact with a partner. The essential element of a deliberate sexual fantasy is the ability to control in imagination exactly what takes place (Leitenberg & Henning, 1995).

Secondly, the Kinsey Scale requires individuals to make trade-offs between homosexuality and heterosexuality, in that they are not measured independently - assuming that a perfect negative correlation exists. Storms (1980) found some evidence for regarding sexual orientations as being independent dimensions rather than polar opposites. He thus proposed a bi-dimensional model to replace Kinsey's uni-dimensional one and in doing so suggested a means of circumventing the difficulties, experienced by researchers such as Masters and Johnson (1979), in assigning Kinsey ratings to individuals for whom it is difficult to determine the *relative* importance of the heterosexual and homosexual in their histories. The Kinsey Scale is not a true continuum, which as Sell (1997) points out is fortunate because the 7 points are already difficult to assign and an infinite number of points would be much more difficult. As alluded to above Masters and Johnson (1979) expressed concern with selecting the specific classification of Kinsey grades 2 through 4 for any individual who had had a large number of both homosexual and heterosexual experiences. They attribute this to the difficulty any individual has being fully objective in assessing the amounts of his heterosexual versus homosexual experience when there has been a considerable amount of both types of interaction. They found grade 3 the most difficult to assign ratings to as relative equality in any form of diverse physical activity is hard to establish and particularly so when

compounded with a multiplicity of partners and vague recall of the average number of sexual interactions with each partner.

Thirdly, the Kinsey Scale fails to account for dynamic shifts in sexual orientation over time, viewing it in a static fashion (Klein, Sepekoff, & Wolf, 1985). Marmor and Green (1977) mention that sexual orientation change may occur developmentally as well as by means of deliberate psychological intervention. Kinsey's own research revealed that while only 4 percent of males are exclusively homosexual after the onset of adolescence, 18 percent of males have at least as much of the homosexual as the heterosexual in their histories *for at least 3 years between the ages of 16 and 55*, thus revealing the potentially fluid nature of sexual orientation in a significant portion of the population studied (Weinberg & Williams, 1974). Gonsiorek and Weinrich (1991) suggest that the most dramatic limitation of current conceptualizations is in fact change over time. They state that there is essentially no research on the longitudinal stability of sexual orientation over the adult life span.

Numerous authors suggest that, particularly in motivated individuals younger than 35 years of age, deliberate and lasting change is possible (Ankerberg & Weldon, 1994; Bergner, 1995; Cameron & Cameron, 2002; Collins, 1988; Dallas, 1991; Davies & Rentzel, 1993; Ellis, 1965; Grazioli, 1998; Konrad, 1993; Nicolosi, Byrd & Potts, 2000; Pattison & Pattison, 1980; Payne, 1995, 1996; Saia, 1988; Schwartz & Masters, 1984; Throckmorton, 2002; White, 1977; Worthen & Davies, 1996; Yarhouse & Throckmorton, 2002). DeCecco (1981) stated that to depict sexuality as *fixed*, bifurcated states of sexual orientation, and to ignore the fact that erotic preference is *labile* and interpenetrated by elements of physicality, emotion, and fantasy, is to impede and even to misdirect research.

In contrast to the above, Mattison and McWhirter (1995) state that

> Although a few fundamentalist religious groups, "reparative therapists" and still a small core of psychoanalysts believe sexual orientation can be changed, there has not been a single, credible, replicated study showing that a gay man's sexual orientation can be changed. Families should be discouraged from the belief in change. Research data indicate that a well-integrated, adult

> sexual orientation is remarkably resistant to change. Attempts to make such changes frequently end in expensive disasters for the gay person. There has been some talk at the American Psychiatric Association to consider such attempts as malpractice.

Numerous researchers support the viewpoint that sexual orientation is not amenable to deliberate change through psychotherapeutic interventions (Diamond, 2003; Ford, 2001; Green, 2003; Haldeman, 2001; Krajeski, 1984; Schroeder & Shidlo, 2001; Shidlo & Schroeder, 2002). Other researchers point to the fact that the issue of the possibility of deliberate change of sexual orientation has not yet been reliably established and raises serious ethical questions with significant clinical and social implications (Forstein, 2001; Haldeman, 2002; Schneider, Brown & Glassgold, 2002).

Whether sexual orientation typically changes developmentally and in what proportion and part of the general population this occurs has not been reliably established either, partly owing to the general lack of clear understanding of the term and its constituent types which the current research is attempting to help address. Patterson (1995) states that we know little of normal variability in sexual behaviour, fantasies, attitudes and identities over the life course or about how these are affected by contextual factors. Strickland (1995) points to the lack of systematic, reliable instruments for delineating and defining sexual interests and behaviours *at any point in time or across the lifespan* and describes researchers as being “woefully inadequate at describing the varieties of sexual interests, fantasies, and behaviors for either sexual majorities or minorities”.

With the current lack of clarity on how best to define sexual orientation at any given point in time and the widespread disagreement as to the changeability of sexual orientations within individuals over time, the third criticism of the Kinsey Scale may very well prove to be specious.

The Shively & DeCecco Scale

The Shively and DeCecco Scale (SDS) (Shively & DeCecco, 1977) addressed criticism 2 above. Their proposed five-point scale enabled researchers to determine the degree of homosexuality and heterosexuality independently rather than simply the balance between them as determined using the Kinsey scale.

Figure 2. The Shively DeCecco Scale (SDS)

1 Not at all Heterosexual	2	3 Somewhat Heterosexual	4	5 Very Heterosexual

1 Not at all Homosexual	2	3 Somewhat Homosexual	4	5 Very Homosexual

Using the above mentioned scale they proposed the assessment of two dimensions of sexual orientation: physical and affectional preference, thus solving criticism 1, to some extent, as well. The SDS's psychometric properties have not yet been investigated and its consideration of physical and affectional preference may be oversimplified or even inappropriate (Sell, 1997). Sell failed to find any published studies using or examining this scale, however, Storms (1980) study was found to examine the issue of measuring homosexuality and heterosexuality independently rather than on a single continuum, as occurs in the Shively and DeCecco scale. He was able to conclude that homosexuality and heterosexuality *should* be measured independently at least in relation to fantasies.

The Klein Sexual Orientation Grid

Klein, Sepekoff, and Wolf (1985) utilized the KHHS but attempted to overcome criticisms 1 and 3 above by separating psychological and behavioural components and by including past, present and future/ideal time dimensions, respectively.

Figure 3. The Klein Sexual Orientation Grid (KSOG)

VARIABLE	PAST	PRESENT	IDEAL
A. Sexual Attraction			
B. Sexual Behaviour			
C. Sexual Fantasies			
D. Emotional Preference			
E. Social Preference			
F. Self-Identification			
G. Lifestyle (Hetero/Homo)			

Scale to Measure Dimensions A, B, C, D & E of the KSOG

0	1	2	3	4	5	6
other sex only	other sex mostly	other sex somewhat	both sexes equally	same sex somewhat	same sex mostly	same sex only

Scale to Measure Dimensions F & G of the KSOG

0	1	2	3	4	5	6
hetero-sexual only	hetero-sexual mostly	hetero-sexual more	hetero/ homo equally	homo-sexual more	homo-sexual mostly	homo-sexual only

Although an improvement the KSOG failed to measure same and other sex responsiveness independently of one another, still forcing them onto a single continuum. It is also unsatisfactory because the relative importance of each of its seven dimensions in measuring sexual orientation has not been thoroughly investigated or grounded in theory. A further concern raised with regard to the KSOG is that with its multiple assessed dimensions it could tend towards becoming burdensome and less practical for many research purposes (Sell, 1997), however, Weinrich et al. (1993) in an attempt to help investigators decide the appropriate level of detail with which to describe their subjects and patients, suggest that the KSOG stands as “middle ground” between researchers who use a single word (homosexual / heterosexual / bisexual) and those who feel that a complete clinical sexual history should be taken. Kirk, Bailey, Dunne, & Martin (2000) point out that the availability of multiple measures of sexual orientation, such as behaviours, attitudes and feelings, increased the statistical power of their analysis.

In one of very few studies that explicitly examined the value of studying more than one dimension of sexual orientation Weinrich et al. (1993) used factor analysis to find that all of the KSOG’s dimensions do measure the same construct (they all load on a first factor which accounts for most of the variance). They state that the fact that the KSOG factored in similar ways in both samples (for the first two factors) suggests that it appears to be an externally valid measure. They did, however, find that a second factor emerged containing time dimensions of the social and emotional preference dimensions which may have also been measuring something other than sexual orientation simultaneously (Sell, 1997). In stark contrast to this, Wayson’s (1983) factor analysis of the KSOG revealed that the factor structure differed substantially between different sexual orientation groups.

Amestoy (2001) conducted an exploratory study examining discrepancies between sexual orientation self-labelling and sexual behaviours/desires using the KSOG. Her results showed inconsistencies in correspondence rates, particularly between past and ideal indications of orientation and also between emotional/social preferences and fantasies. McCabe and Collins (1983) also found that psychosexual and psychoaffectional orientations were not opposite poles of a single continuum but were independent dimensions. It was possible to score high or low on both

dimensions depending on past experience, present attitudes and the nature of the present relationship. Interestingly, they also found that the male psychoaffectional orientation was not markedly different from the female psychoaffectional orientation as previous research had suggested. Diamond (2003) states that although love and desire are functionally independent, most individuals perceive and experience powerful interconnections between these experiences. She goes on to say that most research on sexual orientation either collapses assessments of sexual and romantic tendencies into a single construct or only assesses the former. The few studies that have reported independent assessments of each dimension show that individuals often experience disjunctures between the degree to which they are sexually versus emotionally drawn to the same gender. She states that it is not clear how these findings should be interpreted. Self-reported gaps between affectional and sexual tendencies might be interpreted as evidence that independent affectional orientations do exist and that they are independent of an individual's sexual orientation. Or they might reflect the fact that when describing their patterns of affectional feelings, individuals take into account their previous experiences and conscious preferences regarding close relationships. She states that future investigations should examine the extent to which most individuals perceive their affectional feelings to be oriented in the same manner as their sexual feelings as most research to date has not assessed self-perceived tendencies to bond affectionally with one gender or the other. Collecting such assessments would be valuable in terms of determining whether affectional feelings are more or less situationally variable than are sexual feelings and whether stable affectional feelings develop at different ages than sexual tendencies. She also suggests that disjunctures between sexual and affectional feelings should receive greater research attention as extant data suggest that such disjunctures often play a critical role in shaping individuals' judgements regarding their 'true' sexual identities. This underscores the value of integrating assessments of affectional feelings into research on same-gender sexuality in her opinion.

The Multidimensional Scale of Sexuality

The Multidimensional Scale of Sexuality (MSS) (Berkey et al., 1990) addresses the same criticisms of Kinsey's scale as the KSOG but forces respondents into one of nine educed categories by only allowing True or False responses. It has a less general approach to sexual orientation than the KSOG, focusing on bisexuality in particular.

Figure 4. Dimensions of the Multidimensional Scale of Sexuality (MSS)

1 Heterosexual

2 Heterosexual with some homosexuality

3 Concurrent bisexual

4 Sequential bisexual

5 Homosexual with some heterosexuality

6 Past heterosexual, currently homosexual

7 Homosexual

8 Past homosexual, currently heterosexual

9 Asexual

Each of the above dimensions was assessed with regard to sexual behaviour, sexual attraction, arousal to erotic material, emotional factors and sexual dreams and fantasies. The MSS represents an attempt at dealing with the problem of viewing same and other sex responsiveness as being negatively correlated - or part of a single continuum - but fails to advance the field of sexual orientation measurement *theoretically* according to Sell (1997). The MSS has also not been tested on a diverse, representative sample. Berkey, Perelman-Hall and Kurdek (1990) concede that additional data is required to validate their categories.

The Sell Scale of Sexual Orientation

The Sell Scale of Sexual Orientation (SSSO) (Gonsiorek et al., 1995) addressed the first two criticisms levelled at Kinsey's scale but fails to follow their own recommendation that continuing research should address change/evolution of erotic interests over time. Weinrich et al. (1993) concur with this recommendation, particularly with regard to retaining Klein's Future/Ideal dimension, on the basis of their factor analysis of the KSOG, which suggested that conflict over one's ideal versus actual feelings and behaviours may be important to study in certain populations. The SSSO may also be limited in terms of lumping sexual fantasies, sexual attraction and sexual arousal all together under the heading 'Sexual Interests' as found in Remafedi, Resnick, Blum and Harris (1992) and in Berg-Kelly (2003) who identified the following three domains of homosexuality: attraction, fantasy and self-identification which they state are important when understanding adolescents struggling with homosexual thoughts. The SSSO introduced the notion of investigating both the frequency *and* the intensity of respondents' responses (with regard to the psychological component of sexual orientation).

The FACE Sexual Orientation Scale

The FACE Sexual Orientation Scale (FACE) (Heath, 2000) is a 48-item scale designed to tap self-reported intensity and frequency of Sexual Fantasy, Sexual Attraction, Sexual Contact and Erotic Emotion towards males and females in the Present, Past and Future/Ideal dimensions. The scale was found to have a good internal consistency reliability Cronbach *alpha* coefficient of 0.81. Factor analysis (construct validation) suggested that 4 factors emerged: Sexual Responsiveness to Females (*alpha* 0.99), Sexual Responsiveness to Males (*alpha* 0.97), Erotic Emotion to Females (*alpha* 0.84) and Erotic Emotion to Males (*alpha* 0.83). The possibility that the items measuring Erotic Emotion were not measuring the same construct as the former 2 factors, suggesting that the test was not uni-dimensional, was likely. The hypothesized dimensions of Past, Present and Future/Ideal dimensions did not emerge as separate factors. In addition to this, 5 of the 7 items, identified as improving the reliability if removed, were items pertaining to the Future/Ideal dimension suggesting that this dimension may be problematic and supporting the

notion that this dimension may be measuring a separate but related factor to sexual orientation. The FACE consists of 48 items which may prove too unwieldy and lengthy for many research studies.

This chapter has offered a critical examination of operational definitions of sexual orientations available in published literature to date. It is evident that none of the existing measures are adequate and that the need for a widely acceptable instrument, one which demonstrates strong psychometric properties, has as yet not been satisfactorily met. The current research aims to advance the process of the development of such a measure by utilising the insights gained from the previous attempts and particularly applying these to the adolescent population, which is a particularly challenging yet significant group in terms of understanding the development of sexual orientations.

CHAPTER 5

ADOLESCENT CONTEXT

For the usefulness of the measurement tool being developed in this research to be established it needs to be tested in terms of its application to a group of people. For a variety of reasons discussed below, this study will focus on adolescents. The utility and limitations of using such a sample group will also be discussed.

Adolescence

Adolescence is defined as being the period between childhood and adulthood which commences with the physical development of puberty and terminates with the social changes involved in becoming a self-supporting, independent adult. The age of onset varies, with girls entering puberty at an average age of 11 (with a range of 8 to 13) and boys at an average age of 13 (with a range of 10 to 14). Duration also varies considerably across societies with some requiring lengthy periods of specialised study thus delaying the assumption of adult prerogatives and roles. Common divisions of adolescence into three periods: (1) early (ages 11 to 14), (2) middle (ages 14 to 17), and (3) late (ages 17 to 20) are, therefore, somewhat arbitrary. In technologically advanced societies the end of childhood and requirements of adulthood are not as clearly defined as in many traditional cultures, with the result that the adolescent in the former undergoes a more prolonged, and often confused, struggle to attain adult status. While the concept of ‘adolescence’ may, therefore, not be a uniquely modern or Western one, the emphasis placed on this phase of life has certainly never been as strong as is currently the case in the more developed nations (Kaplan, Sadock, & Grebb, 1994).

Besides the biological changes (which include the development of the primary and secondary sex characteristics) and the social changes (which include the development of social sex roles or the adherence to the culturally created behaviours and attitudes that are deemed appropriate for males and females) the adolescent enters into what Jean Piaget termed the stage of formal operations where thinking becomes abstract, conceptual and future-oriented. The establishment of a mental

sense of self or identity, including a sexual identity, thus becomes possible. (Kaplan, Sadock, & Grebb, 1994).

Sigmund Freud regarded adolescence as being the period in which libido, or sexual energy, latent during the preadolescent years, is revived. Androgens, such as testosterone, which trigger the sex drive, are certainly at higher levels during adolescence than at any other time of life and renowned researchers, William Masters and Virginia Johnson, believe that the peak of the male sex drive occurs between the ages of 17 and 18 (Kaplan, Sadock, & Grebb, 1994) and Patterson (1995) states that with the advent of adolescence sexual aspects of the self emerge as increasingly central.

Identity

The modern era has also heralded an increased emphasis on the individual. Psychology and psychiatry with their focus largely on individual human behaviour produced theorists such as Erickson (1968; 1980) who believed that the search for an individual identity is present throughout the lifespan but that it reaches a climax during adolescence. Identity, itself a relatively recent notion (Baumeister, 1986), is defined as being the individual's image of himself, which includes a sense of continuity running throughout his life as well as a sense that this self-image and others' views of him essentially cohere. The individual has achieved a sense of identity, then, once an integration of all earlier identifications, *drives*, wishes, expectations, abilities and skills with societal opportunities has been attained. The result of failing to synthesize these aspects of the self with its social context is that the individual will experience disorientation in the quest for identity with resultant role confusion. The initial struggles, in this process, frequently revolve around the established concepts of sex roles and gender identification (Kaplan, Sadock, & Grebb, 1994).

Sexual identity is a particularly significant and integral component of our overall identity (Block, 1973). Sexuality, like identity formation, is present throughout the lifespan but, not surprisingly, the demands for a clearly defined sexual identity increase significantly during adolescence (Conger, 1991). Shively and DeCecco

(1977) developed a useful distinction in dividing sexual identity into four parts. The first, *biological sex*, refers to the genetic material encoded in chromosomes. The second, *gender identity*, refers to the psychological sense of being male or female. The third, *social sex role*, is adherence to the culturally created behaviours and attitudes that are deemed appropriate for males and females. Finally, *sexual orientation*, is the erotic and/or affectional disposition to the same and/or opposite sex.

Sexual orientation plays an important part in building identity during adolescence (Narring, Huwiler, & Michaud, 2003). This is even more pronounced in the case of adolescents with non-heterosexual orientations such as lesbian, gay, bisexual and (some) transgender (LGBT) youth who have emerged only recently as a separate cultural group (Ryan, 2003).

Research Lack

Until the mid-1980's, homosexuality was considered an adult phenomenon and minors were regarded as being uniformly heterosexual or undifferentiated. Whereas youthful homosexual behaviour was regarded as transient and typical of early adolescence, recent research focusing on adolescents with well-established homosexual identities has prompted a re-evaluation of this perspective (Remafedi, et al., 1992).

Mishne (1986) found that most of the clinical literature about the homosexual adolescent deals with aetiology, the various pathological forms, and the appropriate treatment foci and interventions. He surmises that the relative paucity of studies dealing with adolescent homosexuality may be attributed to an accepted or allowable homosexuality in adolescence, which, under favourable circumstances, is gradually replaced by heterosexual development. This adolescent homosexual activity is sometimes regarded as a normal phase and a step towards sexual mastery and a choice whether to move on to heterosexuality or not. There can be frequent intense conflict during this period of choice. More recently Jimenez (2002) reiterated the fact that the research in this area has not adequately covered the adolescent group when

she pointed out that empirical research on gay, lesbian and bisexual identities has been largely limited to adult gay males.

Ryan (2003) observes that little is known about bisexual identity during adolescence or whether adolescents consolidate a separate bisexual identity and also states that no studies have been published on bisexual identity during adolescence. She also points out that recent population-based studies indicate that the proportion of *questioning youth* is comparable with those who self-identify as lesbian, gay or bisexual and that little is known about the specific stressors and experiences affecting this group.

Research Overview

Kinsey et al. (1948) found that more than half of all older boys and adults recalled some sort of same sex preadolescent sex play, mostly between the ages of eight and thirteen. In contrast, 70 percent of the preadolescent boys interviewed acknowledged such experiences. One third of the girls interviewed acknowledged engaging in such sex play prior to the onset of adolescence. Amongst adolescents Kinsey found that by age sixteen, 20 percent – and by age twenty, 25 percent – of males had engaged in same sex activity to the point of orgasm. Incidence was higher amongst boys who matured earlier. Silverman (1974) states that although Kinsey found approximately one third of the American male population had at least one homosexual experience to the point of orgasm, most of these experiences occur during adolescence, when the boy is exploring and experimenting with his newly maturing sexual urges.

In Sorenson's (1973) survey, 5 percent of thirteen to fifteen year old boys reported having had same sex sexual experiences. This increased in the sixteen to nineteen age group to 17 percent.

Also in the 1970's, of a national sample of American college students, asked to indicate sexual preferences, 93 percent of males and 91 percent of females stated an exclusive interest in the opposite sex. An additional 4 percent of males and 5 percent of females said they were mostly interested in the opposite sex. Only 1

percent of males and 2 percent of females indicated an exclusive interest in the same sex (Chilman, 1983). This was found to be remarkably consistent with the results of a reanalysis of Kinsey's data on college males which indicated that only 5 or 6 percent had any real same sex sexual experience after late adolescence.

Just over 6 percent of eighteen year olds reported *predominantly* homosexual attractions in a study of 34706 adolescents in Minnesota (Remafedi, Resnick, Blum, & Harris, 1992).

Narring, Huwiler & Michaud (2003) conducted an extensive survey of sexual orientations of Swiss youth aged between 16 and 20. Overall 95 percent of girls and 96.2 percent of boys described themselves as predominantly heterosexual while 1.4 percent of girls and 1.7 percent of boys described themselves as predominantly homosexual or bisexual. The remainder were unsure of their sexual orientations. The reported prevalence of homosexual attraction (girls: 2 percent; boys: 2.9 percent) exceeded homosexual fantasies (girls: 0.4 percent; boys: 0.5 percent) and affiliations (girls: 0.3 percent; boys: 0.5 percent). Approximately 1.5 percent of girls and 2.5 percent of boys reported sexual behaviour with a person of the same sex. Of these 80 percent of girls and 65 percent of boys considered themselves heterosexual. They concluded that for a comprehensive understanding of sexual orientation in adolescence a differentiated look at dimensions of sexual orientation is indispensable.

There is still much to be learned about patterns of sexuality among South African youth (Greyling, 2003) but South African research did find that of those adolescents who admitted to being sexually active, 9.3 percent (or 3.8 percent of the total sample of over 2000 secondary school pupils) admitted to engaging in sexual contact with the same sex in the previous 12 months (Terblanche, 1999). In a sample of 176 second year psychology students surveyed at Rhodes University, Simpson (1997) found that 93.7 percent indicated that they preferred a person of the opposite sex, 3.4 percent indicated that they had no particular preference and 2.9 percent indicated that they preferred a person of the same sex.

Significance of Adolescence in Sexual Identity Development Research

As Remafedi et al. (1992) point out, sexual orientation is widely believed to be determined during early childhood but its unfolding between childhood and adulthood is poorly understood.

The development of homosexuality has frequently been associated with pleasant homosexual experiences during adolescence or early adulthood (Carson, 1991). In an early study of 79 male homosexuals East (1946) found early homosexual experiences to be the most common environmental factor. Recent studies have tended to support this finding. In a study of 65 lesbians Hedblom (1973) found that two thirds engaged in their first homosexual contact before the age of 20 and had been willing and cooperative partners. Forty percent achieved orgasm at the time of their first homosexual experience. Large majorities of both men and women in one sample reported having experienced arousal by a person of the same sex prior to the age of 19. Sixty-two percent of the men and seventy-three percent of the women reported enjoying their first such experience (Bell, Weinberg, & Hammersmith, 1981).

In spite of these findings, it seems doubtful that early homosexual experiences lead to later homosexual lifestyles except where they are reinforced by pleasurable repetition and/or meet the individual's emotional needs (Carson, 1991). As Schulze and van Rooyen (1990) point out relatively few researchers have worked on preschool contact in homosexuals although there are those who believe that sometimes homosexuals' sexuality already shows up in (as opposed to being caused by) childhood sex games. They estimate that 75 to 90 percent of male homosexuals report that they played child sex games with other boys while heterosexual men in general state that their first sexual contact was with girls. In investigations carried out in the United States, Brazil, Guatemala and the Philippines, sexual contact and sexual attraction to boys were already present before puberty.

Gadpaille (1978), in contrast to traditional psychodynamic perspectives that state that sexual identity and object choice remain fluid and modifiable through adolescence, suggested that essential developmental processes occur during critical

earlier periods. Similarly, Storms, in his erotic orientation model, contrasts his variant of learning theory with the psychodynamic theories when he posits that the eroticization process underlying homosexuality occurs primarily during preadolescence and not in early childhood experiences (Stoller, 1985). Storms (1981) proposes that erotic orientation emerges from an interaction between sex drive development and social development during early adolescence.

A more recent extensive study of both homosexual and heterosexual adults by the Kinsey Institute for Sex Research suggests that having *predominantly* or *exclusively* homosexual *feelings* in childhood and adolescence is more closely related to adoption of a homosexual orientation in adulthood than having had homosexual *experiences* during the developmental years. Although homosexual adults are more likely than heterosexuals to have had same sex sexual experiences in childhood and adolescence, the predominance of homosexual over heterosexual feelings during this developmental period was a considerably better predictor of adult homosexuality. This survey found, 21 percent of heterosexuals (as opposed to 84 percent of homosexual males) had engaged in mutual masturbation with other males prior to age nineteen and 51 percent had been involved in some kind of same sex sex play. Only 1 percent of the heterosexual males as opposed to 59 percent of their homosexual co-respondents reported having sexual feelings during adolescence and childhood which were predominantly same sex. In the same study 4 percent of the heterosexual females compared to 41 percent of the homosexual females reported having engaged in same sex mutual masturbation prior to age nineteen. Only 1 percent of the heterosexual females as opposed to 44 percent of their homosexual co-respondents reported having sexual feelings during adolescence and childhood which were predominantly same sex (Bell & Weinberg, 1978).

Although the development of a homosexual identity has been widely studied in adults, few researchers have investigated this area in adolescents (Santrock, 1996). Newman and Muzzonigro (1993) conceptualised this process in 3 stages: sensitization, awareness (with confusion, denial, guilt and shame) and acceptance. The majority of their sample of homosexual adolescent males reported feeling different from other boys as children. Heterosexual adolescent males were excluded from the study and, therefore, it is uncertain as to whether they would have

responded significantly differently to this somewhat vague question. The average age at having a first crush on another boy in their sample was 12.7 years and the average age at realizing they were gay was 12.5 years. Approximately 50 percent reported initially attempting to deny their homosexuality. Reactions to homosexual self-recognition run the gamut from feelings of relief and happiness to anxiety, depression and suicidality. It is also not unusual for some adolescents to experiment with bisexual behaviour and for homosexual youth to experience bisexual interests early in their sexual development (Money, 1988).

Savin-Williams (1995) discovered that in his sample of gay and bisexual male youths initiation of sexual behaviour with same-sex partners was closely synchronized with biological cues (timing of maturation) whereas sexual behaviour with opposite-sex partners began instead according to a social clock.

Henderson (1984) found that males and females differed in age of establishment and in lability of sexual orientation. She found that sexual orientation was established later for women than for men. She found that lesbianism was typically not established by college age, was more developmentally continuous and less psychologically and interpersonally threatening than male homosexuality and may be associated with issues of power and autonomy. In contrast, she found that male homosexuality was typically established in college when issues of self-direction and authority are particularly salient.

Savin-Williams & Diamond (2000) explored gender differences in sexual identity development in terms of first same-sex attractions, self-labelling, same-sex sexual contact and disclosure among adolescents. Their results indicated the value of assessing gender differences in the context, timing, spacing and sequencing of such sexual identity milestones. They found that adolescent males had an earlier onset of all milestones except for disclosure. The contexts for these milestones were likely to be emotionally oriented for females and sexually oriented for males. The gap from first same-sex attractions (8-9 years of age) to first disclosure (18 years of age) averaged 10 years for both sexes. Females typically first self-labelled whereas males typically pursued sex prior to labelling themselves as gay.

Dempsey, Hillier and Harrison (2001) also sought to promote a more complex understanding of gendered subjectivity into the arena of adolescents and homosexuality. Their results revealed significant gender differences with regard to patterns of sexual attraction, behaviour and identity labels. Males typically showed greater congruence between feelings of gender atypicality, same-sex attractions and same-sex behaviours. Females typically displayed more fluidity with regard to their sexual feelings, behaviours and identities.

Maguen, Floyd, Bakeman and Armistead (2002) found the mean ages for first awareness of same sex attraction (11 years), first same-sex sexual contact (16 years) and first disclosure of sexual identity (17 years) compared similarly to other young samples. They also found that the order of the milestones varied among various subgroups such as self-identified gays, lesbians and bisexuals. Their findings suggested diverse individual trajectories rather than an invariant sequence of coming-out experiences for non-heterosexual youth. They highlighted the need for greater attention to individual differences in sexual orientation identity development.

Ryan (2003) noted that numerous researchers have documented a substantive decrease in the age of psychosexual milestones and self-identification as lesbian, gay or bisexual beginning with studies in the late 1980s. She found that the average first awareness of same-sex attraction in males in more recent studies had declined to age 9 on average and in females to age 10. First same-sex experience in these studies was 13 – 14 years of age in males and 14 – 15 years in females and self-identification as lesbian or gay was 14 – 16 in males and 15 – 16 in females.

Adolescent Problems

Berg-Kelly (2003) states that the development of a homosexual identity is a process connected with serious health hazards related to both physical and mental health and that most adolescents are not given adequate support because heterosexuality is considered the norm in most cultures.

Research by Calderwood (1968), conducted during sex education classes over a 5 year period with adolescent boys, found by quantitatively analysing questions, that

homosexuality was the third most frequently enquired about issue. Kirkendall (1968) found, from surveys of boys between the ages of 16 and 22, that approximately one in every five boys said he was, or had previously been, concerned in some respect with homosexuality. In a group of fifty college boys who were questioned the proportion was slightly higher. When boys who expressed *possible* concern about homosexuality were added, the proportion increased to about one in four. Calderwood mentions questions concerning the possibility of changing sexual orientations as being typical. Questions pertaining to the definition of sexual orientation, or of homosexuality, in particular, are also cited as common to the adolescent group. Sexual orientation researchers, however, as indicated above, have failed to satisfactorily explore these fundamental issues and as a result have failed to obtain conclusive findings in the research they have undertaken.

Pomeroy (1968) states that it is during adolescence that the average American boy became most intensely aware of the taboos against homosexuality. He found that it was easier to elicit details concerning homosexual play than heterosexual play from prepubescent boys as opposed to adults who had a much easier time recounting prepubescent heterosexual activity rather than their homosexual activity. He hypothesized that this was a factor of the taboos taking effect after puberty and becoming ingrained over the years.

Of particular concern is the lack of support which homosexual adolescents receive from parents, teachers and counsellors (Gruskin, 1994). This lack of support may be evident in and matched by a lack of accurate information being provided to adolescents, in that 50.6 percent of adolescents reported that their initial source of information concerning homosexuality came from their peers. Another 19.4 percent received such information from literature, while schools provided 16.4 percent with such information. Mothers supplied 7.5 percent and fathers 4.3 percent of this sample with information in this regard (Thornburg, 1981).

Conger (1991) states that many adolescents have homosexual experiences and despite the increased openness in some Western societies (Mussen, Conger, Kagan, & Huston, 1990) and the increasingly tolerant and accepting attitudes towards homosexuals amongst students and their parents (Altemeyer, 2001), may

need reassurance about the normality of isolated homosexual experiences and confirmation that this does not indicate permanent homosexual orientation. Many young people fail to distinguish between homosexual *experience* and a primarily homosexual *orientation*. Sexually tinged fantasies, dreams about a member of the same sex, mutual sexual experimentation and experiences of infatuation on same sex friends or authority figures such as teachers or coaches are often misinterpreted as being conclusive proof of homosexuality. In societies where homosexuality is feared and homosexuals are stigmatised, such conclusions can lead to considerable anxiety, the development of elaborate psychological defences such as ascetism and masochistic self-denial or even to suicide (Conger, 1991). Savin-Williams and Rodriguez (1993) cite further examples of defences frequently evident in this age group:

> “I guess I was drunk”
> “It was just a phase I was going through”
> “I’ve heard that all guys do it once”
> “I just love her and not all girls”
> “I was lonely”
> “I was just curious”

Such defences could be temporary or lifelong and may have positive and/or negative outcomes, for example redirecting sexual energy into academic endeavours or marrying a person who is not erotically or emotionally attractive to the individual concerned.

Hollander (2000) warns that rigid social expectations about sexual identity development may further complicate the experiences of youths in schools and communities who question their sexual and/or affectional orientations and states that this group is increasingly being identified as having a need for support.

Approximately 1 – 4 percent of boys and 0.5 – 2 percent of girls do develop a permanent homosexual orientation and may require counselling on how to deal with this (Kaplan, Sadock, & Grebb, 1994) particularly as homosexual adolescents of both genders attempt suicide much more often (Conger, 1991) and engage in more

health risk behaviours (Garofolo, Wolf, Kessel, Palfrey, & Du Rant, 1998) than their heterosexual peers. Studies also suggest that lesbian, gay and bisexual youth are more frequently victims of discrimination as a result of actual or perceived sexual orientation than adults. In the USA and UK in the decade 1993 – 2003 high rates of victimization and harassment, particularly in school and community settings has paralleled increased visibility (Ryan & Rivers, 2003).

Savin-Williams (2001) states that developmental scientists should seriously reconsider traditional empirical and theoretical paradigms that narrowly define sexual-minority adolescents in terms of those who adopt a culturally defined sexual identity label. He advocates a broader consideration of youth populations who have same-sex desires but who might not necessarily identify as gay, lesbian or bisexual and proposes that this may lead to a very different understanding of sexual-minority youths than is apparent in most published studies. The current measure of sexual orientation being developed in this study would accommodate such a perspective.

Generalizability

Cozby (1989) points out that caution with regard to generalizability (external validity) needs to be exercised when samples consisting of students are used. They tend to have a sense of self-identity that is still developing, social and political attitudes that are in a state of flux, a high need for peer approval and unstable peer relationships. They are also intelligent, have high cognitive skills and they know how to win approval with authority. In defence of such studies, however, he states that simply because research can easily be criticised on the basis of subject characteristics does not mean that the research is, in fact, flawed. He states that such criticisms should be backed with good reasons why a relationship would not be found with other types of subjects. He goes on to point out that replication of studies provide a safeguard against limited generalizability.

Gonsiorek, Sell and Weinrich (1995) suggest that sexual orientation research with adolescents will have additional distortions, most likely in the direction of underestimation of same-sex orientation, because some adolescents are insufficiently knowledgeable about their sexual orientations to report accurately.

They predict that adolescents are likely to describe themselves as “normative” – that is heterosexual. In acknowledging the complexities and difficulties in assigning sexual orientation to adolescents, Remafedi et al. (1992), conclude that adolescents’ own perceptions of their sexuality may not conform to adult standards. They warn that classification of youths’ sexual orientation by sexual behaviour or any other single aspect of sexuality may be unreliable and incongruities between attractions, fantasies, behaviours and perceived sexual identities should be anticipated in research and clinical settings.

Conclusion

The factors detailed in this chapter serve to:

- illustrate the need for effective research into adolescent sexual identities in general (and issues surrounding this)
- highlight considerations which need to be made, in the context of this specific population, if a reliable and valid tool to accomplish this is to be developed
- highlight considerations which need to be made, in the context of this specific population, if results obtained from such a tool are to be accurately interpreted.

The value of such a tool lies not only in facilitating more effective and efficient research into areas concerning sexual orientation and the benefits that arise from this but also in clinical use as a means to help adolescents in distress over sexual identity confusion issues to clarify and structure their thinking in this regard. It also has potential value in the educational arena as a means of counteracting common misperceptions and oversimplifications which abound amongst adolescents concerning issues related to sexual orientations and which lead to discrimination (Leck, 2000).

CHAPTER 6

FURTHER CONSIDERATIONS

Considerations for formulating definitions

Isaacs and McKendrick (1992) make suggestions as to how the research into sexual orientation issues generally, should proceed in future. Much of what they suggest is also relevant and applicable specifically to the research into and use of *definitions* of sexual orientation.

Firstly, they state that homosexual identity and its development are most appropriately addressed within the broader parameters of human sexuality. Other researchers concur with this principle (Elphis, 1987; Rojek, Peacock, & Collins, 1988; Stein, 1988). They point out that the subjectivity and distortion which sometimes surround homosexuality often also characterize the discussion of human sexuality generally and hence the need for an un-emotive operational definition of human sexuality. They suggest that Hart (1979) provides an example of such a definition when he describes human sexual conduct as being “the expression of the physical and psychological experience of sexual desires and/or sexual usage, for physical and/or social ends.” They propose that such a definition would facilitate the objective study of human sexuality.

Secondly, they contend that, historically, research and discussions have obscured the true understanding of the homosexual identity by viewing homosexuality in isolation from general sexuality. They state that such a distortion is evident in the *definitions* of homosexuality used. They point out that the majority of texts – including common works of reference – define homosexuality “parochially” as a sexual proclivity between people of the same gender. This tacitly suggests that homosexuality is abnormal in that it is concerned only with overt sexual behaviour, without the relationship content that these acts normally imply in human society. Traditional definitions have also served to obfuscate issues relating to homosexuality, identity and mental health exacerbating the spread of common misconceptions that homosexuals are gender identity disordered and/or mentally

abnormal. To counteract these problems they have proposed the following definition be used:

> Homosexuality is seen as a broad spectrum of psychological, emotional and sexual variables in a state of interplay between people of the same sex. Homosexuality is not only sexual attraction between people of the same sex, but also includes an emotional as well as physical bond; a fantasy system; and elements of symbolism, eroticism, and sexuality. Homosexuality can be experienced in different degrees (adapted from Isaacs and Miller, 1985).

Thirdly, they state that sexuality does not exist in a vacuum and, therefore, understanding can be promoted by examining human sexuality in its many dynamic cultural relationships. They point to the importance of accounting for and appreciating the systemic framework of interaction between society, the homosexual, and the homosexual sub-culture. This has interesting, and arguably, different implications for adolescents, as opposed to people with more established identities as is evident in the previous chapter and in a later section which deals with the usefulness of an adolescent sample when exploring sexual orientation issues.

Donovan (1992) states that it is important to keep in mind what should and should not be expected of any definition. Its utility lies in focussing attention by bringing together a number of phenomena which are in reality, and not merely in appearance, closely related to one another (Radcliffe-Brown, 1952). Its purpose is *not* to *explain* the phenomena represented therein. Criteria identifying individuals for inclusion within a category should never be confounded with post facto, statistical descriptions of the group, since such conclusions are generated by studying groups previously constructed by the definition. He also advocates the definition being as independent of theory as possible since theory can change.

Identification of the core phenomena to be included in a definition is accomplished by enumerating criteria which distinguish category members. In an ideal situation these criteria are necessary and sufficient. Realistically, however, any proffered definition of a category prototype can easily fail to include some cases (Lakoff, 1987). Waismann (1960) says that this is *necessarily* the case for most empirical concepts

in that it is not possible to define a concept with absolute precision so that every ‘nook and cranny’ is blocked against an entry of doubt. Donovan (1992), therefore, concludes that attempts to allow for *exceptional* cases within the prototype are largely responsible for the excessive relativism plaguing definitions, and thereby research in gay and lesbian studies and quotes Bernard (1941) when the latter points out that the only area of sociological science in which we can standardize definition and reduce relativity to a veritable minimum is that of the hypothetical norm or ideal definition. Donovan promotes the notion of designing definitions to maximize inclusion and thereby idealizing them so as to increase utility.

He also encourages the use of definitions which are:

(1) ecologically valid – ensuring researchers and their respondents or subjects are not talking past one another
(2) theoretically noncommittal – serving to identify the phenomena of interest regardless of the intellectual posture from which they are to be scrutinized
(3) methodologically helpful – providing few but clear criteria for subject selection

Gagnon (1977) pointed out that whether we have expansive or narrow definitions of heterosexuality and homosexuality, love and lust, or clothed or naked sex, depends on the cultural significance that these dimensions have in both personal lives and the collective expressions of sexuality that contextualise the individual. He believed that definitions should not be created to exhaust reality, to stand for all time or to account for all meanings in all circumstances and that the utility of a definition is the direction it gives us for looking at the world and should not be confused with the world itself.

Gonsiorek, Sell and Weinrich (1995) review major methods utilized for the definition and measurement of sexual orientations. They highlight both practical and conceptual limitations and pitfalls evident in these and make recommendations as to how sexual orientations can be measured generally and specifically with adolescent populations.

They caution against the confusing of sexual orientation with concepts such as gender identity, social sex role and even biological sex as well as variations on these parameters such as cross-dressing, paedophilia, sadomasochism and fetishism, as was evident in some of the studies they reviewed. They also point out that the word 'homosexual' can be problematic with its connotations of diagnosis and pathology and also in that it could be perceived as being somewhat archaic. They do, however, state that this word has few implications for sense of identity and, therefore, can function in a more descriptive sense.

They also caution against the indiscriminate use of words such as 'gay', 'lesbian' and 'straight' which are terms used predominantly by people who *define* themselves as homosexual but are also used by heterosexuals in different contexts. They state that it can be argued that the words 'gay' and 'lesbian' describe a particular identity which goes beyond mere description, is not accurate for many homosexually behaving and desiring individuals and is primarily rooted in the socio-political context of the mid and late 20th century Western world.

They point out that a person's sexual behaviour can be same-sex oriented without that person self-identifying as homosexual. Other researchers have found substantial evidence of this not only in terms of predominant same-sex oriented behaviours but also with regard to fantasies and attractions. Remafedi et al. (1992), for example, found that less than one third of all their subjects (adolescents) with predominantly homosexual fantasies, attractions, and/or behaviours actually described themselves as bisexual or homosexual. They found that despite a wide diversity in reported attractions and fantasies, there were uniformly low levels of homosexual identification among all ethnic and socioeconomic subpopulations. The discordance between affiliation and other dimensions of sexuality was not readily attributable to a misunderstanding of the questions. They suggested that the discrepancy between adolescents' reported sexual orientation and their attractions, fantasies and behaviours may reflect a reluctance to be labelled as homosexual. Their sexual orientation item was the only question to use the possibly stigmatizing terms 'homosexual', 'bisexual', 'gay' and 'lesbian'. Gonsiorek, Sell and Weinrich (1995) explain this phenomenon in terms of the many individuals who deny their same-sex

feelings and others whose self-identity, affiliation patterns, fantasies and behaviour are not necessarily congruent.

Further complicating matters is the fact that gay men and lesbians may differ in their bases for self-definition in ways which may relate to gender differences. Lesbians tend to perceive affectional orientation and political perspectives as central to self-definition while gay males appear to view sexual behaviour and sexual fantasy as central (Golden, 1994).

Interestingly, they hypothesize that adolescents who will eventually be predominantly same-sex oriented and are usually not involved in adult lesbian/gay communities, may utilize methods of self-definition which are unlikely to be related to those of same-sex oriented adults. How an individual defines the variables related to sexual orientations is difficult to ascertain and it can be safely assumed that there is no necessary relationship between a person's sexual behaviour and their self-identity unless both are individually assessed (CLGC, 1991).

They recommend that the term 'sexual orientation' be used rather than 'sexual preference' or 'lifestyle'. 'Sexual preference' is deemed to be misleading in that it connotes a conscious or deliberate choice and trivializes the depth of the psychological processes involved. The preferred term, 'sexual orientation', seems to conform best to research findings which indicate that erotic feelings are a basic part of an individual's psyche and are established much earlier than conscious choice would indicate. The term 'lifestyle' is argued to be confusing in that it suggests a unanimity in patterns of living which does not reflect the diversity evident within the gay and lesbian populations and also obscures many similarities between the lives of homosexuals and heterosexuals.

They point to the need for any definition to allow for historical and current sexual experiences which run counter to the predominant orientation because a substantial amount of research shows that homosexual men and women engage in and experience significant amounts of opposite sex sexual experiences alongside their same sex experiences and the same is true to some extent of heterosexuals with 88 percent of the former and 30 percent of the latter reporting experiencing bisexual

feelings at some point in their lives in one study (Hoburg, 2000). Factors in this study found to be relevant to this discrepancy between sexual identification and sexual/romantic feelings included the relative quality of homosexual versus heterosexual experiences, the timing of these experiences, attitude toward one's sexual feelings and gender identity. To pre-empt confusion they would define the term 'bisexual' as indicating someone whose attractions are not currently confined to one sex.

They also suggest that specific cultural factors be carefully considered. In some sub-cultures and ethnic groups same-sex behaviour is not regarded as homosexual orientation but is defined instead by social sex role or participation in specific sexual acts. Also various racial/ethnic groups and social/educational classes within a single society can vary drastically in the existence and degree of negative sanctions associated with same-sex behaviour or interest and such sanctions can affect the way sexual orientations are conceptualised, expressed and reported in members of such groups.

Considerations for implementing research

A major problem facing many studies is the risk involved in self disclosure, especially where complete anonymity is not ensured (Gonsiorek, Sell, & Weinrich, 1995). Homosexuality is illegal in at least 50 countries and several countries impose the death penalty for homosexual behaviour (Mackay, 2001). Given the widespread social condemnation of homosexuality, research subjects who have reasons to doubt the confidentiality or anonymity of the data or who are simply frightened (and therefore potentially less than completely rational) of negative repercussions, regardless of guarantees of safety, are likely to underreport same-sex orientation. In many places where homosexuals are discriminated against successful and established professionals may be particularly unwilling to take the risks involved with such research. This may impact studies on homosexuals and some evidence that suggests that homosexual *volunteers* for research may be an unusual group has been generated.

A few studies have used physiological measures to determine and/or attempt to measure sexual orientation. Plethysmography, while being well established as a reliable and valid technique, has numerous ethical problems and limitations associated with it. It does not work well, for instance, with involuntary or non-cooperative participants and it is simple to ‘dissimulate’ during the procedure.

By far the most common measurement used has been verbal self-report. The limitations associated with this method are significant. Firstly, this method requires that individuals must accurately appraise their own degree of same-sex experiences. Besides a general tendency in all people to have imperfect recall abilities relating to every aspect of their pasts, many individuals may distort the degree of their same-sex interests as a way to defend against a realization that they are homosexual. The stage in the individual’s sexual identity development, therefore, can play a crucial role in how they respond to questions. This issue is particularly acute in measuring sexual orientations in adolescents, whose sexual orientations may not yet be manifest or may be a source of confusion to them, or whose level of misinformation may very easily result in their verbal report not meaning what the researcher intends it to. It is, therefore, likely that self-report measures represent an underestimate (to an unknown degree) of homosexual responsiveness.

As Leitenberg and Henning (1995) point out, however, with certain components of sexual orientation, such as fantasy, no alternatives to self-report currently exist. They state that because fantasies are covert the only way to measure them is through what a person reports he or she is thinking. They go on to say that obviously one cannot have an independent observer corroborate someone else’s sexual fantasies. Similarly, although one can measure physical signs of arousal to reported fantasies, there is no physiological measure of the content of a fantasy per se. There simply is no choice but to rely on self-report, with all its inherent methodological limitations regarding accuracy. They mention the following three common methods used to measure sexual fantasy:

- checklists
- open-ended questionnaires
- logbooks (using one of the above 2 methods to self-record over a period)

They state that most of the research on sexual fantasy can be organized under two main headings: incidence/frequency and content.

Gonsiorek, Sell and Weinrich (1995) suggest that perhaps the most dramatic limitation of current attempts to define and measure sexual orientations is change over time. They state that there is essentially no research on the longitudinal stability of sexual orientation over the adult lifespan. It is therefore impossible to assess how any measure would function as a predictor of future behaviour or orientation at this time.

They list the following factors which complicate research into sexual orientations:

- variable pressures on respondents mitigating against full disclosure
- widely varying ways of conceptualising sexual orientations
- differences in what is actually measured
- major limitations in the most common measure: verbal self-report
- developmental and maturational variations that render the point in the lifespan when data is collected central

They add, however, that such definitional problems in the measurement of sexual orientation are not unusual in the social and behavioural sciences and they offer the following valuable recommendations:

> Research should assess sexual orientations in enough detail to capture their complexities, yet retain interpretability. A shortcoming of some of the most complex measurement ideas is that they currently defy interpretation; for example how does one conceptualize a person whose behaviour, fantasies, and affiliation patterns are not congruent? At this point in time it seems to make the most sense to: a) measure behaviour and attraction/fantasy

separately; b) inquire about change/evolution of erotic interests over time; and c) measure same- and opposite-sex orientations separately, not as one continuous variable. Estimates based on self-reports of behaviour will reliably produce underestimates of same-sex orientation, but may be useful in some kinds of research; for example, where current sexual practices are of interest, and a “floor” measure is acceptable.

CHAPTER 7

METHODOLOGY

Introduction

Patterson (1995) states that the variety of topics relevant to sexual orientation under study today is extremely diverse, ranging across the lifespan and spanning a wide variety of domains. Perspectives adopted by researchers vary from essentialist views that emphasize biological influences on sexual orientation to constructionist perspectives that emphasize the significance of historical and cultural influences on sexual identities. Methodologies range from open-ended interview techniques to observational studies to meta-analytic reviews.

She points out that tremendous controversy surrounds the conceptualization and assessment of sexual orientation. She states that despite vigorous activity and real advances, many research and theoretical questions concerning sexual orientation and human development are in need of study and that *most* obvious is the need to understand more clearly the phenomenon of sexual orientation itself (McWhirter et al., 1990). She sees the conceptualization of sexual orientation and assessment as being inextricably linked (Gonsiorek & Weinrich, 1991) and points to the fact that little research to date has compared the results of varied assessment techniques or evaluated their predictive validity. She states that decisions about assessment are often presented without much discussion in reports of empirical research even though these have a significant bearing on the results. She concurs with the numerous researchers referred to above that given the absence of clear consensus about assessment it is not surprising that many basic descriptive questions about aspects of sexual orientation remain unanswered.

Assumptions

As stated above some social constructionists have queried the very existence of such phenomena as sexual orientation (Richardson, 1984). The fact that empirical research has failed to deliver many convincing findings after decades of fairly

rigorous efforts to discover answers to such mysteries as the aetiology of various sexual orientations hardly inspires much confidence in the existence of such phenomena either. Practically, however, these terms are widely used by laypeople and scientists alike. Schmitt and Buss (2000) in an exploration of the sexual dimensions of person description found the following 7 sexuality factor scales, derived from the lexicon of sexuality, to have moderate to high levels of construct validity:

- Sexual Attractiveness
- Relationship Exclusivity
- Gender Orientation
- Sexual Restraint
- Erotophilic Disposition
- Emotional Investment
- Sexual Orientation

It is an assumption of the current research that such concepts as sexual orientation do exist and that they can be empirically (quantitatively) investigated.

Robboy (2002) points out that social constructionists do attempt to conduct quantitative research on sexual orientation and explores the ways in which the very nature of social constructionist arguments may be incongruous with the methodological requirements of such quantitative studies. She suggests that this conflict is a result of the differing natures of these two modes of scholarly inquiry in that research requires the acceptance of certain analytical categories while the strength of social constructionism comes from its reflexive scrutiny and problematization of those very categories. She concludes that ultimately social constructionists who try to apply their theories and perspectives must necessarily conform to the methodological constraints of quantitative research and argues that these two distinct modes of scholarly inquiry can, and should, co-exist in a dialectical relationship to each other.

It is also an assumption of the current research that most of the individual and collective research efforts to date have been flawed by inadequate fundamental definitions. In attempting to address this research dilemma the current research aims to develop a widely useable, reliable and valid measurement tool to contribute to the process of empirically investigating sexual orientations in the hope that this will facilitate more rewarding and accurate, effective and efficient research in future. Such a measurement tool would need to demonstrate satisfactory reliability and validity for researchers to even consider making use of it.

Research Phases

The study consisted of 4 phases:

(1) two questionnaires were constructed, taking into account previous scales and criticisms thereof as well as general guidelines on the development of questionnaires as delineated by Rust and Golombok (1999) and Gillham (2000)

(2) the questionnaires were piloted on an individual basis with a small sample of mostly adolescents

(3) the questionnaires were then administered to three different adolescent samples

(4) data were captured and statistical analyses performed to determine reliability and validity and to examine other psychometric properties of each questionnaire.

Questionnaire construction

The questionnaires are both person-based (as opposed to knowledge-based) questionnaires and rely on self-report in keeping with most sexual orientation research to date.

Test Specification

A blueprint or test specification for each questionnaire was first compiled in the form of a grid structure consisting of ‘content areas’ along the vertical axis and ‘manifestations’ along the horizontal axis.

For the first questionnaire, four content areas were decided on and comprised the following: Opposite Sex – Entire Life, Same Sex – Entire Life, Opposite Sex – Last Month and Same Sex – Last Month. This allowed for the independent measurement of Opposite and Same Sex attractions as discussed previously. The time period, Entire Life, was selected so as to maximise reporting of potentially relevant experiences; while the time period, Last Month, was selected because a relatively recent period would have conceivably reduced memory difficulties and thereby potentially increased accuracy of reporting. Eight manifestations were then decided on as follows: Fantasy – Intensity, Fantasy – Frequency, Attraction – Intensity, Attraction – Frequency, Contact – Intensity, Contact – Frequency, Emotion (Infatuation) – Intensity and Emotion (Infatuation) – Frequency. This resulted in a 32 cell grid structure as depicted in Figure 5 below. These manifestations represent the most frequently recurring aspects of sexual orientation measurements to date.

For the second questionnaire, four content areas were decided on and comprised the following: Opposite Sex – Attractive, Opposite Sex – Unattractive, Same Sex – Attractive and Same Sex – Unattractive. Once again this allowed for Opposite and Same Sex responsiveness to be measured independently from each other. All traditional measures only measure attraction (positive responsiveness) as opposed to the commonly encountered expression of repulsion (negative responsiveness) and this questionnaire therefore introduces a new and as yet untested dimension to the arena of sexual orientation measurement. It also allows for comparisons between, for example, responsiveness towards Unattractive people of each sex (and between Attractive people of the same sex and Unattractive people of the opposite sex) which could prove useful in determining levels of homophobia and their impact on how questions are responded to in future research. Four manifestations were then decided on as follows: Fantasy, Contact – Receiving (Passive), Contact – Performing (Active) and Attraction. The Fantasy and Contact dimensions represent covert and overt aspects of sexual orientation while the Attraction dimension taps

respondents' reactions to being the object of someone else's sexual responsiveness in order to obtain a more indirect (and possibly less guarded) measure. This resulted in a 16 cell grid structure depicted in figure 6 below. Both Passive and Active forms of Contact were included because it was hypothesized that these could impact on levels of perceived responsibility and ownership of actions and hence identity issues in different ways and to different degrees and thus result in different responses.

The following definitions for the four main manifestation dimensions were settled on after careful consideration of input from study participants in the piloting of the FACE questionnaire (Heath, 2000).

Sexual Fantasizing **-** *imagining or picturing engaging in intimate physical contact (e.g. prolonged kissing, petting, masturbation, oral sex, intercourse, anal sex etc.) as often occurs during masturbation, dreaming, wishful thinking, daydreaming and remembering past experiences or events. May be brief or prolonged, by choice (deliberate) or out of one's control (involuntary)…*

The Fantasy dimension deliberately included involuntary aspects, such as dreaming, as well as a very explicit differentiation between deliberate and involuntary actions (along with a basic explanation of what the word 'involuntary' means in as simple language as possible). It also included the phrases 'as often occurs' and 'may be brief'. These were attempts to downplay the significance of any responsiveness within this dimension and minimize the impact of social undesirability and thus reduce guardedness by making clear that such responsiveness is (1) not abnormal (2) potentially inconsequential and (3) not a choice – hence not something for which one should feel negative emotions such as guilt. It was decided to put this dimension first in an attempt to reduce anxiety and guardedness in the initial stages of the questionnaire and thus maximize honesty with regard to the socially undesirable items throughout the questionnaire.

Sexual Attraction **-** *focusing one's attention on the physical appearance of a person who you regard as being attractive - which arouses interest or pleasure. Can be up close or at a distance or via any form of media (magazine, television, computer etc).*

May be brief or prolonged, deliberate (by choice) or involuntary (out of one's control). If continued could result in sexual arousal…

Again a fairly inclusive definition was used which included "safer" options such as 'at a distance', 'may be brief' and 'involuntary (out of one's control)'. The final clause also reduced the significance of any positive responses to this item somewhat in that it excluded the necessity of sexual arousal actually occurring while maintaining the sexual context by indicating its relevance should the experience continue. It was felt that the initial aspects of this definition served to adequately distinguish it from the previous, also covert, dimension.

Sexual Contact - engaging in intimate physical contact such as occurs in intimate (prolonged/wet) kissing, petting, fondling, masturbating, oral sex, intercourse, anal sex etc. …

This dimension deliberately included fairly innocuous activities, such as kissing, for reasons similar to those outlined above yet clearly excluded purely platonic physical contact by including the words 'intimate' and 'prolonged/wet'. The 'etc' included at the end was also deliberate in that it would include a variety of other activities possibly not clearly covered by the fairly comprehensive list supplied.

'In Love' - feeling strongly affectionate towards a person, being fascinated with the person, experiencing positive feelings when thinking about the person, strongly desiring the other person's company (presence), having concern for their well-being and happiness, feeling close to and emotionally in tune with them, valuing having them reciprocate the feelings. Could be a secret crush or an actual relationship…

It was thought that this dimension needed to be strongly differentiated from purely platonic affection which may not have been the case with the FACE (Heath, 2000). The fact that it includes both actual relationships as well as secret crushes would potentially increase the number of responses.

The remaining dimensions' definitions are evident and made explicit in each of the actual questions themselves as apparent in Appendices A and B.

Figure 5. Test Specification: Questionnaire 1

		FANTASY		ATTRACTION		CONTACT		EMOTION	
		FREQ	INTENSITY	FREQ	INTENSITY	FREQ	INTENSITY	FREQ	INTENSITY
OPPOSITE	LIFE	1	3	9	11	17	19	25	27
	MONTH	5	7	13	15	21	23	29	31
SAME	LIFE	2	4	10	12	18	20	26	28
	MONTH	6	8	14	16	22	24	30	32

The number in each cell is the number of the questionnaire 1 item concerned.

Figure 6. Test Specification: Questionnaire 2

		FANTASY	CONTACT		ATTRACTION
			RECEIVING	PERFORMING	
OPPOSITE	ATTRACTIVE	a	E	i	m
	UNATTRACTIVE	b	F	j	n
SAME	ATTRACTIVE	c	G	k	o
	UNATTRACTIVE	d	H	l	p

The letter in each cell is the letter of the questionnaire 2 item concerned.

Rust and Golombok (1999) recommend that the number of categories per axis is between four and seven to prevent the questionnaire from becoming too narrow or too cumbersome. The vertical axis of the first questionnaire falls within the suggested limits while the horizontal axis exceeds the recommended number by one. The fact that the number of categories on the vertical axis is at the lowest point of the recommended range (4) and the number on the horizontal axis only narrowly exceeds the limit (8) served to mitigate the negative effect on the questionnaire as a whole to some extent. Both axes of the second questionnaire fall within the recommended range limits.

Because of a lack of thorough related research into the measurement of sexual orientation it was decided not to give different weightings to different cells by increasing the number of items (questions) in any particular cell relative to any other cell. This was because there was no sound reason to regard any particular content area or manifestation as being more important than any other. In both questionnaires each cell contained a single item. At this point in questionnaire development Rust and Golombok (1999) recommend that the minimum number of items included in the plan is not less than 20, so as to achieve adequate reliability. Questionnaire 1 exceeds this minimum by 12 items whereas questionnaire 2 falls short by 4 items.

Item selection

Rating scale items are regarded as being the best closed questions for person-based questionnaires because respondents typically feel more able to express themselves precisely with these than with alternate-choice items (Rust & Golombok, 1999). All items in both questionnaires comply with this recommendation. In the Sell Scale of Sexual Orientation, which Gonsiorek, Sell and Weinrich (1995) recommend as a basis for researchers to formulate a measure of sexual orientation, most of their rating scale items consist of at least seven points. All items in both questionnaires consist of a seven-point ordinal scale response option set. Seven options were chosen because it was thought that this would provide a sufficient number for respondents to express themselves adequately while ensuring that they were not confronted with so many options that they would have to make meaningless discriminations. It was hoped that this would represent a sufficiently complex and sensitive array of options so as to encourage some respondents who were fearful of

admitting to less socially desirable responses to be able to admit to these in at least a small measure and hence reduce the impact of overly ‘favourable’ response sets.

The second questionnaire consists of true Likert scales (neutral midpoint) whereas the first questionnaire does not. The introduction of Likert scales in the second questionnaire allowed for a new and as yet unexplored facet to the measurement of sexual orientation in that for the first time a negative dimension was measured. As stated above previous attempts to measure sexual orientation have all focussed on *attraction* and never addressed the potentially significant factor of *repulsion*, so commonly expressed by many heterosexual people (with possible relevance to future research into homophobia) as well as a significant number of homosexual people (with possible relevance to future research into types of homosexuals).

Each item was written as simply, clearly and briefly as possible with irrelevant material being avoided and key words being repeated in similar and overlapping items to increase understanding of the concepts being addressed and reduce possible confusion and/or subjective and idiosyncratic interpretations of items being employed. Owing to the nature of the topic it was not possible to omit items which were clearly socially desirable or undesirable, however, the uniform design of both questionnaires did lean towards respondents giving a relatively immediate response rather than forcing laborious consideration of each item which mitigates against the tendency to respond to any particular item in a socially desirable manner (Rust & Golombok, 1999). Indecisiveness was eliminated by the omission of any ‘don’t know’ or ‘uncertain’ options. The fact that clear, unambiguous and specific items were used would have mitigated against the extreme response tendency to some extent.

Layout Design

Inquiring about background information demographics was kept to an absolute minimum so as to reinforce the vital notion that the questionnaire was anonymous and the respondents would have no reason to fear embarrassment or discovery. The only demographic information enquired about was gender, age, relational status (‘single’ or ‘in a committed relationship’) and in one sample group, mother tongue language. In addition the Kinsey Scale was included in the demographic section so as to ascertain self-identification with regard to traditional sexual orientation labels.

To increase a sense of privacy a small sized print was used so that ability to observe neighbouring respondents' responses would be impaired. This was accomplished by reducing the pages concerned from an A4 to an A5 size. Once a section was completed respondents could turn the page and the answers for that section would then be concealed from view.

The instructions were clear and unambiguous and emphasized the anonymity of the study. Respondents were guided both verbally and graphically in how to respond to each item in that an example item, complete with answer, was included. All respondents were required to do was place a single cross in one of the 7 boxes beneath each question as was demonstrated in the example referred to above. The layout of the questionnaires was designed so that answers were clearly spatially linked with their respective questions. Effort was made to ensure that questions were easily readable and quickly answerable and that items could not easily be unintentionally missed and left unanswered.

Pilot Study

The piloting of the questionnaires involved the administration of these to a small sample of respondents and focused on obtaining qualitative feedback. This preceded the administration of the questionnaires to large groups of respondents to obtain quantitative information with regard to their psychometric properties.

As the focus of the study would be predominantly on adolescents in the 16 to 21 age range most of the participants in the pilot study fell within this range, however, feedback was also elicited from some younger and older respondents. Participants included people who were experiencing confusion with regard to their sexual orientations and were, therefore, highly motivated as well as those who had no particular interest or concern in this regard. Participants' education levels varied from grade 9 to various levels of tertiary education and included people who had been employed for a significant number of years already. Both genders and at least three different racial groups and three different nationalities were included in the pilot study. People identifying themselves as homosexual, bisexual and heterosexual were included in the pilot study.

Participants were asked to complete the questionnaire, to identify any problematic or ambiguous items and to suggest possible improvements so as to increase the efficacy of each item. Each participant's response to the test as a whole was also discussed on a one-to-one basis.

The pilot study suggested that the questionnaires' instructions were clear and unproblematic. No changes were suggested with regard to the demographic section. The definitions of Fantasy, Attraction, Contact and Emotion were amended slightly as a result of the pilot study on the basis of clarifications sought by participants and were repeated at the head of each section on the suggestion of one pilot study participant. No items were identified as being confusing or ambiguous by the pilot study participants.

Ethical Considerations

In order to protect the participants in sex research Rathus, Nevid and Fichner-Rathus (1997) state that the following considerations should be taken into account:

Pain and Stress

Feedback from participants in previous similar research (such as that performed for the researcher's Masters thesis in 2000 performed under the auspices of the Rhodes University Psychology Department) was very positive and no negative reactions were encountered. Participants indicated that they found the exercise to be useful, educational, relevant to both the subject they were studying and their own lives and of general interest. It is conceivable that certain individuals would find the topic sensitive but this was countered by the fact that the questionnaire was entirely anonymous and that participation after being informed of the nature of the experience was entirely voluntary. It is noteworthy that no one opted out of filling in the questionnaire in the previous study.

Confidentiality

Although no legally incriminating information was elicited some individuals would find it embarrassing or harmful should information regarding their sexual orientations become public knowledge. Confidentiality was thus assured by virtue of the

anonymity of the questionnaire and the study in no way required the divulging of identities as no follow up was necessary.

Informed Consent

Participants freely agreed to participate after being given enough information about the procedures and purposes of the research and its risks and benefits to make an informed decision. No coercion or deception was required for the study to be successful. Once the study had begun participants could withdraw at any time without penalty.

Deception

No deception was necessary.

Debriefing

No deception or deliberate stressing or inflicting of pain was involved in the study and as such no debriefing would be required by the APA. Should participants want access to results or counselling concerning related issues participation in the study would benefit them and resources were made known to them.

Furthermore participation in the study would benefit students by potentially providing them with experiential and participatory knowledge of sex research and questionnaire construction as well as by increasing their scientific knowledge of sexual orientations.

Administration

Procedure

The researcher personally administered all the questionnaires to all the sample groups. Preceding the handing out of the questionnaires, the researcher introduced himself and the topic of the research and explained the voluntary and anonymous nature of the research and what participation entailed in terms of time, thought and answering of questions. A request was made at this point to keep responses covered and also not to attempt to see the responses of others and the need for no communication to occur until all questionnaires were returned explained in terms of

the standardization of the procedure. Potential benefits to individual participants, the researcher and sexual orientation research in general were related and sources of support and counselling for people with related concerns were identified. Means of accessing the results were also made explicit at this time.

The questionnaires were then handed out in a ‘face down’ manner and once everyone in the room had received one respondents were asked to turn the sheets over so that they could all begin simultaneously. The instructions (see Appendix A) were then pointed out, read out loud by the researcher and individually explained and elaborated on as necessary. The demographics items were then read out by the researcher and respondents were able to fill in their demographic details. The definitions were then pointed out and read out loud by the researcher and an opportunity for questions seeking clarification was made available. After this point respondents were asked to work independently and complete both questionnaires and to turn the questionnaire sheets over once they had completed them so that this was evident to the researcher who would collect them once everyone had completed their responses.

Respondents appeared to have no difficulties completing the questionnaires and no respondents sought help with regard to answering any item after the demographics section. A few respondents volunteered feedback exiting the venues and this was largely of a positive nature. One respondent expressed concern that people would not be honest for fear of their responses being observed by others. One suggested that the period of a month was too long in certain items, requiring an overtaxing of memory. One suggested that in questionnaire 2 the specific type of sexual contact should be made more explicit and specific and that the extent of the sexual activity would be a factor in increasing accuracy of answers. It was felt that this feedback was useful and should be carefully considered for future research.

Respondents’ Demographics

The convenience sampling method was utilized and 3 disparate groups of adolescents were selected. They represented 3 different stages within the age ranges commonly associated with late adolescence (17 to 21 years of age) although a number of respondents fell just below or above this range. The first group

comprised all grade 11 school pupils present in their final term prior to entering their matric year at a typical city public co-ed secondary school. The second group consisted of all final (third) year psychology undergraduate students present at a University which draws most of its students from all over South Africa and internationally. The third group consisted of all psychology first year students present in their first tutorial of the year at the same university as referred to above.

The school group would have provided a more ‘generalizable’ sample in that it represented a wider spread in terms of academic/educational and socio-economic status than the typical university sample. The first year psychology students represented a wider spread in terms of field of study than their third year counterparts in that many first year psychology students do the course as a “filler” and represent a number of different degrees whereas the third years are mostly arts and social science majors. The first year students may have been a great deal more anxious than either of the other groups in that their living and study environment would have been new to a large majority of them and socially they would be expected to be more concerned with issues relating to peer acceptance which may have impacted how they answered the questionnaires.

Clearly generalizability is limited in any study making use of convenience sampling but the fact that a significant proportion of the study involved scholars and a wide range of geographical backgrounds could be argued to mitigate the limitations in this regard somewhat. The limited focus on adolescents was by design owing to the relative paucity of studies focusing on adolescent sexual orientations referred to above. The fact that the overwhelming majority of the respondents would be expected to be ‘heterosexual’ does not detract from the value of the study as Berkey, Perelman-Hall and Kurdek (1990) state that few studies have been conducted on homosexual responsivity in heterosexuals and it has been convincingly argued that all sexual orientations are best understood in a wider context rather than according to narrow, exclusive labels.

Frequency Tables and Percentages

The specific breakdowns of the respondents in terms of the sample groups, genders, ages, first language (scholars only), relational status and sexual orientation self-identification follows in Tables 1 – 6 below:

Table 1. Sample Groups (N = 835)

Group	Count	%
Scholars	189	22.6
Psych 3	99	11.8
Psych 1	547	65.5
missing	0	0.00

Table 2. Gender

Gender	Count	%
Male	309	37.0
Female	526	62.9
missing	0	0.0

Table 3. Age

Age	Count	%
15	1	0.11
16	36	4.31
17	124	14.80
18	232	27.78
19	189	22.63
20	129	15.44
21	78	9.34
22	20	2.39
23	10	1.19
24	5	0.59
25	1	0.11
27	6	0.71
missing	4	0.47

Table 4. Language

Language	Count	%
English	115	13.77
Xhosa	68	8.14
Other	6	0.71
N/A	646	77.36
Missing	0	0.00

Note: only the Scholars were asked to indicate their first language.

Table 5. Relationship Status

Status	Count	%
Single	552	66.10
Relationship	278	33.29
Missing	5	0.59

Table 6. Sexual Orientation Self-identification

Kinsey Scale	Count	%
1 – Completely Homosexual	8	0.95
2 – Mainly Homosexual, Occasionally Heterosexual	2	0.23
3 – Mainly Homosexual, More Than Occasionally Heterosexual	1	0.11
4 – Equally Heterosexual and Homosexual	1	0.11
5 – Mainly Heterosexual, More Than Occasionally Homosexual	5	0.59
6 – Mainly Heterosexual, Occasionally Homosexual	37	4.43
7 – Completely Heterosexual	773	92.57
Missing	8	0.95

2-Way Summary Table: Observed Frequencies

Further breakdowns in terms of the demographics in relation to each other are provided in Tables 7 – 20 below. Information with regard to any significant differences which were found to exist between various demographic groups is also provided.

Table 7. Group x Gender Comparison

	Gender male	Gender female	Row
Scholars	95	94	189
Row %	50.26%	49.74%	
Psych 3	21	78	99
Row %	21.21%	78.79%	
Psych 1	193	354	547
Row %	35.28%	64.72%	
Totals	309	526	835

Statistics: groups(3) x gender(2)			
	Chi-square	**df**	**P**
Pearson Chi-square	25.54208	df=2	P=.00000

From the above it is evident that the 3 sample groups had a highly significant difference in terms of their gender makeup. The Scholars were almost evenly divided between males and females whereas the Psych 1 and 3 males were heavily outnumbered by females.

Table 8. Group x Age Comparison

	Age 15	Age 16	Age 17	Age 18	Age 20	Age 21	Age 22	Age 23	Age 24	Age 25	Age 26	Age 27+	Row
Scholars	1	36	99	40	11	0	0	0	0	0	0	0	187
Row %	0.53%	19.25%	52.94%	21.39%	5.88%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	
Psych 3	0	0	0	0	3	44	36	9	4	2	0	1	99
Row %	0.00%	0.00%	0.00%	0.00%	3.03%	44.44%	36.36%	9.09%	4.04%	2.02%	0.00%	1.01%	
Psych 1	0	0	25	192	175	85	42	11	6	3	1	5	545
Row %	0.00%	0.00%	4.59%	35.23%	32.11%	15.60%	7.71%	2.02%	1.10%	0.55%	0.18%	0.92%	
Totals	1	36	124	232	189	129	78	20	10	5	1	6	831

Statistics: groups(3) x ages(12)			
	Chi-square	**df**	**P**
Pearson Chi-square	681.7947	df=22	P=0.0000

From the above it is evident that the 3 sample groups, as expected, had a highly significant difference in terms of their ages.

Table 9. Group x First Language Comparison

	English	Xhosa	Other	N/A	Row
Scholars	115	68	6	0	189
Row %	60.85%	35.98%	3.17%	0.00%	
Psych 3	0	0	0	99	99
Row %	0.00%	0.00%	0.00%	100.00%	
Psych 1	0	0	0	547	547
Row %	0.00%	0.00%	0.00%	100.00%	
Totals	115	68	6	646	835

Only Scholars were asked to state their mother tongue and as a result no differences between groups could be ascertained in this regard.

Table 10. Group x Relationship Status Comparison

	Status single	Status relationship	Row
Scholars	133	53	186
Row %	71.51%	28.49%	
Psych 3	54	44	98
Row %	55.10%	44.90%	
Psych 1	365	181	546
Row %	66.85%	33.15%	
Totals	552	278	830

Statistics: group(3) x status(2)			
	Chi-square	**df**	**P**
Pearson Chi-square	7.837445	df=2	p=.01987

From the above it is evident that the 3 sample groups were significantly different with regard to relational statuses of members of each group. In all groups a majority indicated that they were Single but this declined steadily, as expected, with the increasing maturity of the group.

Table 11. Group x Sexual Orientation Self-Identification

	Identity 1	Identity 2	Identity 3	Identity 4	Identity 5	Identity 6	Identity 7	Row
Scholars	1	0	0	0	1	0	186	188
Row %	0.53%	0.00%	0.00%	0.00%	0.53%	0.00%	98.94%	
Psych 3	3	0	0	1	0	3	92	99
Row %	3.03%	0.00%	0.00%	1.01%	0.00%	3.03%	92.93%	
Psych 1	4	2	1	0	4	34	495	540
Row %	0.74%	0.37%	0.19%	0.00%	0.74%	6.30%	91.67%	
Totals	8	2	1	1	5	37	773	827

Statistics: groups(3) x identities(7)			
	Chi-square	**df**	**P**
Pearson Chi-square	28.41139	df=12	P=.00482

From the above it is evident that the 3 sample groups had a significant difference in terms of their sexual orientation self-identification labels as conceptualized by Kinsey. This was expected as numerous studies including that of Remafedi et al.

(1992) found that self-labeling and identification increasingly diversifies as adolescence progresses.

Table 12. Gender x Age

	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22	Age 23	Age 24	Age 25	Age 27	Row
male	0	15	53	70	66	48	31	10	6	3	1	5	308
Row %	0.00%	4.87%	17.21%	22.73%	21.43%	15.58%	10.06%	3.25%	1.95%	0.97%	0.32%	1.62%	
female	1	21	71	162	123	81	47	10	4	2	0	1	523
Row %	0.19%	4.02%	13.58%	30.98%	23.52%	15.49%	8.99%	1.91%	0.76%	0.38%	0.00%	0.19%	
Totals	1	36	124	232	189	129	78	20	10	5	1	6	831

Statistics: genders(2) x ages(12)			
	Chi-square	**df**	**P**
Pearson Chi-square	19.98899	df=11	P=.04551

From the above it is evident that males and females were significantly different in terms of their ages. The significance is only slight, however, as *p* nears the 0.05 cut-off point.

Table 13. Gender x Relationship Status

	Status single	Status relationship	Row
Male	225	80	305
Row %	73.77%	26.23%	
Female	327	198	525
Row %	62.29%	37.71%	
Totals	552	278	830

Statistics: genders(2) x statuses(2)			
	Chi-square	**df**	**P**
Pearson Chi-square	11.42348	df=1	p=.00073

From the above it is evident that males and females were significantly different in terms of their relational statuses, indicating a greater incidence of female involvement in relationship than males, possibly explained by the female propensity to enter into relationships with older partners.

Table 14. Gender x Sexual Orientation Self-identification

	Identity 1	Identity 2	Identity 3	Identity 4	Identity 5	Identity 6	Identity 7	Row
Male	4	2	0	0	2	4	295	307
Row %	1.30%	0.65%	0.00%	0.00%	0.65%	1.30%	96.09%	
Female	4	0	1	1	3	33	478	520
Row %	0.77%	0.00%	0.19%	0.19%	0.58%	6.35%	91.92%	
Totals	8	2	1	1	5	37	773	827

Statistics: genders(2) x identities(7)			
	Chi-square	**df**	**P**
Pearson Chi-square	16.48710	df=6	P=.01137

From the above it is evident that males and females were significantly different in terms of their sexual orientation self-identification labels conceptualized by Kinsey. As with previous studies more males indicated that they were exclusively or predominantly homosexual than did females.

Table 15. Relational Status x Age

	Age 15	Age 16	Age 17	Age 18	Age 19	Age 20	Age 21	Age 22	Age 23	Age 24	Age 25	Age 27	Row
single	1	29	89	151	130	87	42	11	7	1	0	1	549
Row %	0.18%	5.28%	16.21%	27.50%	23.68%	15.85%	7.65%	2.00%	1.28%	0.18%	0.00%	0.18%	
relation	0	7	34	79	59	40	36	9	3	4	1	5	277
Row %	0.00%	2.53%	12.27%	28.52%	21.30%	14.44%	13.00%	3.25%	1.08%	1.44%	0.36%	1.81%	
Totals	1	36	123	230	189	127	78	20	10	5	1	6	826

Statistics: statuses(2) x ages(12)			
	Chi-square	**df**	**P**
Pearson Chi-square	26.69686	df=11	P=.00511

From the above it is evident that relational status differed significantly between different age groups, with the relative number of those in relationships increasing, as expected, with age.

Table 16. Relational Status x Sexual Orientation Self-identification

	Identity 1	Identity 2	Identity 3	Identity 4	Identity 5	Identity 6	Identity 7	Row
Single	4	2	1	0	4	30	506	547
Row %	0.73%	0.37%	0.18%	0.00%	0.73%	5.48%	92.50%	
relationship	4	0	0	1	1	7	262	275
Row %	1.45%	0.00%	0.00%	0.36%	0.36%	2.55%	95.27%	
Totals	8	2	1	1	5	37	768	822

Statistics: statuses(2) x identities(7)			
	Chi-square	**df**	**P**
Pearson Chi-square	8.549378	df=6	P=.20056

From the above it is evident that there is no significant difference between relational status and the sexual orientation self-identification labels as conceptualized by Kinsey.

Table 17. First Language x Gender (Scholars only)

	Male	Female	Row
English	60	55	115
Row %	52.17%	47.83%	
Xhosa	32	36	68
Row %	47.06%	52.94%	
Other	3	3	6
Row %	50.00%	50.00%	
Totals	95	94	189

Statistics: languages(3) x genders(2)			
	Chi-square	**df**	**P**
Pearson Chi-square	.4474069	df=2	P=.79955

From the above it is evident that there is no significant difference between the language groups in terms of gender.

Table 18. First Language x Age (Scholars only)

	Age 15	Age 16	Age 17	Age 18	Age 19	Row
English	0	27	71	14	2	114
Row %	0.00%	23.68%	62.28%	12.28%	1.75%	
Xhosa	1	8	25	24	9	67
Row %	1.49%	11.94%	37.31%	35.82%	13.43%	
Other	0	1	3	2	0	6
Row %	0.00%	16.67%	50.00%	33.33%	0.00%	
Totals	1	36	99	40	11	187

Statistics: languages(3) x ages(5)			
	Chi-square	**df**	**P**
Pearson Chi-square	31.30882	df=8	p=.00012

From the above it is evident that there is a significant difference between the language groups in terms of age with the Xhosa speakers being significantly older than the English speakers in this sample.

Table 19. First Language x Relationship Status (Scholars only)

	Status single	Status relationship	Row
English	88	27	115
Row %	76.52%	23.48%	
Xhosa	41	25	66
Row %	62.12%	37.88%	
Other	4	1	5
Row %	80.00%	20.00%	
Totals	133	53	186

Statistics: languages(3) x statuses(2)			
	Chi-square	**df**	**P**
Pearson Chi-square	4.449907	df=2	p=.10808

From the above it is evident that there is no significant difference between the language groups in terms of relational status.

Table 20. First Language x Sexual Orientation Self-identification (Scholars only)

	Identity 1	Identity 5	Identity 7	Row
English	1	1	112	114
Row %	0.88%	0.88%	98.25%	
Xhosa	0	0	68	68
Row %	0.00%	0.00%	100.00%	
Other	0	0	6	6
Row %	0.00%	0.00%	100.00%	
Totals	1	1	186	188

Statistics: languages(3) x identities(3)			
	Chi-square	**df**	**P**
Pearson Chi-square	1.312205	df=4	P=.85930

From the above it is evident that there is no significant difference between the language groups in terms of sexual orientation self-identification labels as conceptualized by Kinsey.

Data Analysis Measures

The data was captured using Microsoft Excel and then statistical analyses performed using the Statistica software package.

The questionnaire's internal structure was examined using the following statistical measures: calculating Cronbach *alpha C*oefficients, Factor Analysis, Descriptive Statistics (means and standard deviations), ANOVA Tests (tests for group effect, tests for homogeneity of the variances), Multiple Comparison Tests (Scheffé), Dependent t-tests and Frequency Tables and Chi-Square Tests.

Reliability

Internal consistency reliability

The Cronbach *alpha* coefficient to measure internal consistency was used to determine the internal consistency of the questionnaire. According to Klein, Sepekoff and Wolf (1985) *alpha* may be interpreted as the average correlation of the profile considering the items in the entire grid (or each scale) as a random sample of all possible measures of the same concept. Cronbach's *alpha* coefficient was designed to provide a more defensible procedure to measure internal consistency than the rather ad hoc method of dividing a test into even and odd items and calculating a split-half reliability. Whereas split half is based on a single split coefficient *alpha* is based on all splits. Cronbach's *alpha* is largely determined by the amount of variance items in a scale share with other items in that scale. If items inter-correlate highly with at least some of the other items in the scale, *alpha* will be high (Cronbach, 1990). Internal consistency reliability is greatest when inter-correlations are greatest at 1.00 and perfect item correlation with the given instrument's score equal to 1.00. Crano and Brewer (1973) recommended a minimum *alpha* coefficient of internal consistency reliability of 0.80 for Likert-type scales.

Validity

Factor Analysis

An analysis of factor structure – a form of construct validity – involves (1) gathering evidence that items of an instrument are related to other items in that they have similar meanings or interpretations and (2) discovering how the items converge or cluster around a smaller number of undergirding factors. A correlational approach to factor structure is factor analysis where the function of data reduction is performed by grouping an instrument's items that are moderately or highly correlated with one another. Factor analysis examines the intercorrelations among a set of item scores and determines the number of factors needed to account for the intercorrelations. By examining the intercorrelations among the items and determining which items seem to go together the larger number of items may be reduced to a smaller number of underlying factors that are actually measured. The intercorrelations reflect not only

what items measure the same factor but also the degree to which the given items measure the same factor (Harty & Beall, 1984). Eigenvalues are the solutions to mathematical equations which need to be solved when extracting factors and are good estimates of factors' explained variance.

In sum, factor analysis identifies clusters of items which inter-correlate with each other. If a set of items all share common variance, i.e. they all measure a uni-dimensional construct, they will all load on a common factor. If a test is uni-dimensional (all the items measure a common construct) it will display internal consistency (as do the questionnaires designed in this study as evident from their Cronbach *alpha* coefficients), however, the converse is not necessarily true. One cannot argue that a high Cronbach *alpha* value means that the test is uni-dimensional (Gardner, 1996). All that is necessary for *alpha* to be high is that each item shares variance with at least some other items in the test – it does not have to share variance with all of them. Green, Lissitz and Mulaik (1977) make the point that internal consistency does not provide sufficient evidence of uni-dimensionality or as Gardner (1996) states internal consistency does not provide sufficient evidence of uni-dimensionality. It should, therefore, not be assumed that a high *alpha* value serves as evidence that the items all measure a common construct hence the need for factor analysis.

Weinrich et al. (1993) point out that factors are not really a property of a set of questions but rather of how those questions were answered by a particular population at a particular time. They conclude that it is, therefore, crucial to examine the factor structure in at least 2 different samples. Although all the samples consist of predominantly 'heterosexual' adolescents in the current study, the fact that scholars, first year and third (final) year university psychology students represent significantly different groups should add to the value of the factor analysis. Should a questionnaire factor in similar ways in more than one sample (or in all 3 samples) this would suggest that that questionnaire appears to be an externally valid measure. Conversely, a factor analysis of a questionnaire revealing a factor structure which differs substantially between (for example sexual orientation or age or educational level or intelligence level or gender) groups would have questionable external validity.

CHAPTER 8

RESULTS: QUESTIONNAIRE 1

Exploration of Item Discrimination

In the tables below the frequencies of each response under each item is provided for the sample as a whole as well as for each of the constituent groups which made up the sample. Chi-squares were also calculated and are provided in the tables below each frequency table as an indication of whether any differences in the distributions of responses were significant between these groups.

Table 21. Frequency Table and Chi-Square Test by Groups for Item 1

(1) In my entire life I have fantasized about sexual activity involving a person (or people) of the opposite sex…								
	More than 200times	**Between 100 and 200 times**	**Between 50 and 100 times**	**Between 20 and 50 times**	**More than once but less than 20 times**	**Once**	**Never**	**Row**
Scholars	40	20	27	38	56	2	4	187
Row %	21.39%	10.70%	14.44%	20.32%	29.95%	1.07%	2.14%	
Psych 3	21	12	23	18	21	0	1	96
Row %	21.88%	12.50%	23.96%	18.75%	21.88%	0.00%	1.04%	
Psych 1	204	57	70	87	99	7	11	535
Row %	38.13%	10.65%	13.08%	16.26%	18.50%	1.31%	2.06%	
Totals	265	89	120	143	176	9	16	818

	Chi-square	**df**	**p**
Pearson Chi-square	34.11749	df=12	p=.00065

There is a significant group effect ($p < 0.001$). The distributions of the responses to item 1 are significantly different, with the Psych 1's tending towards the highest indication of frequency, the Psych 3's and Scholars having a far more even distribution of responses. This could suggest that a section of the Psych 1's may have tended towards exaggeration of responses (cf. pages 242 and 244 for a discussion of a possible rationale for this possibility).

Table 22. Frequency Table and Chi-Square Test by Groups for Item 2

(2) In my entire life I have fantasized about sexual activity involving a person (or people) of the same sex…								
	More than 200 times	Between 100 and 200 times	Between 50 and 100 times	Between 20 and 50 times	More than once but less than 20 times	Once	Never	Row
Scholars	1	1	0	2	13	20	127	164
Row %	0.61%	0.61%	0.00%	1.22%	7.93%	12.20%	77.44%	
Psych 3	2	0	1	4	13	4	64	88
Row %	2.27%	0.00%	1.14%	4.55%	14.77%	4.55%	72.73%	
Psych 1	9	8	11	13	64	46	317	468
Row %	1.92%	1.71%	2.35%	2.78%	13.68%	9.83%	67.74%	
Totals	12	9	12	19	90	70	508	720

	Chi-square	df	p
Pearson Chi-square	19.37401	df=12	p=.07991

No significant group effect on the responses to item 2.

Table 23. Frequency Table and Chi-Square Test by Groups for Item 3

(3) I would describe the MOST pleasure that I have ever experienced from fantasizing about someone of the opposite sex as being _____ pleasurable.								
	Extremely	Very	Significantly	Moderately	Mildly	Slightly	Not At All	Row
Scholars	27	39	25	27	23	28	19	188
Row %	14.36%	20.74%	13.30%	14.36%	12.23%	14.89%	10.11%	
Psych 3	16	24	24	18	8	4	5	99
Row %	16.16%	24.24%	24.24%	18.18%	8.08%	4.04%	5.05%	
Psych 1	122	127	102	84	38	46	23	542
Row %	22.51%	23.43%	18.82%	15.50%	7.01%	8.49%	4.24%	
Totals	165	190	151	129	69	78	47	829

	Chi-square	df	p
Pearson Chi-square	33.81688	df=12	p=.00072

There is a significant group effect ($p < 0.001$). The distributions of the responses to item 3 are significantly different, with the Psych 1 group once again tending towards the extreme while the Scholars had a fairly even distribution and the Psych 3's had a less extreme profile than the Psych 1 group.

Table 24. Frequency Table and Chi-Square Test by Groups for Item 4

(4) I would describe the MOST pleasure that I have ever experienced from fantasizing about someone of the same sex as being _____ pleasurable.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	1	3	1	3	5	14	134	161
Row %	0.62%	1.86%	0.62%	1.86%	3.11%	8.70%	83.23%	
Psych 3	4	1	2	4	1	5	72	89
Row %	4.49%	1.12%	2.25%	4.49%	1.12%	5.62%	80.90%	
Psych 1	12	7	20	14	19	42	365	479
Row %	2.51%	1.46%	4.18%	2.92%	3.97%	8.77%	76.20%	
Totals	17	11	23	21	25	61	571	729

	Chi-square	**df**	**p**
Pearson Chi-square	14.16606	df=12	p=.29025

No significant group effect on the responses to item 4.

Table 25. Frequency Table and Chi-Square Test by Groups for Item 5

(5) I would describe my AVERAGE experience of fantasizing about someone of the opposite Sex over the last 30 days as having been _____ pleasurable.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	21	35	23	29	18	31	30	187
Row %	11.23%	18.72%	12.30%	15.51%	9.63%	16.58%	16.04%	
Psych 3	6	18	26	20	9	9	11	99
Row %	6.06%	18.18%	26.26%	20.20%	9.09%	9.09%	11.11%	
Psych 1	50	91	119	109	52	61	59	541
Row %	9.24%	16.82%	22.00%	20.15%	9.61%	11.28%	10.91%	
Totals	77	144	168	158	79	101	100	827

	Chi-square	**df**	**p**
Pearson Chi-square	19.46225	df=12	p=.07799

No significant group effect on the responses to item 5.

Table 26. Frequency Table and Chi-Square Test by Groups for Item 6

(6) I would describe my AVERAGE experience of fantasizing about someone of the same sex over the last 30 days as having been _____ pleasurable.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	0	1	3	3	1	2	148	158
Row %	0.00%	0.63%	1.90%	1.90%	0.63%	1.27%	93.67 %	
Psych 3	1	2	0	2	2	2	78	87
Row %	1.15%	2.30%	0.00%	2.30%	2.30%	2.30%	89.66 %	
Psych 1	5	3	10	11	6	16	419	470
Row %	1.06%	0.64%	2.13%	2.34%	1.28%	3.40%	89.15 %	
Totals	6	6	13	16	9	20	645	715

	Chi-square	**df**	**p**
Pearson Chi-square	9.696260	df=12	p=.64259

No significant group effect on the responses to item 6.

Table 27. Frequency Table and Chi-Square Test by Groups for Item 7

(7) I would estimate that I have experienced fantasy involving someone of the opposite sex over the last 30 days _____ time(s).								
	More than 30	**25 - 30**	**21 - 24**	**11 - 20**	**5 - 10**	**1 - 4**	**No**	**Row**
Scholars	17	6	12	33	39	58	24	189
Row %	8.99%	3.17%	6.35%	17.46%	20.63%	30.69%	12.70%	
Psych 3	5	2	10	13	22	32	15	99
Row %	5.05%	2.02%	10.10%	13.13%	22.22%	32.32%	15.15%	
Psych 1	68	31	45	102	109	143	43	541
Row %	12.57%	5.73%	8.32%	18.85%	20.15%	26.43%	7.95%	
Totals	90	39	67	148	170	233	82	829

	Chi-square	**df**	**p**
Pearson Chi-square	19.73195	df=12	p=.07235

No significant group effect on the responses to item 7.

Table 28. Frequency Table and Chi-Square Test by Groups for Item 8

(8) I would estimate that I have experienced fantasy involving someone of the same sex over the last 30 days _____ time(s).								
	More than 30	**25 - 30**	**21 - 24**	**11 - 20**	**5 - 10**	**1 - 4**	**No**	**Row**
Scholars	0	1	0	2	0	6	149	158
Row %	0.00%	0.63%	0.00%	1.27%	0.00%	3.80%	94.30%	
Psych 3	0	2	0	0	2	3	81	88
Row %	0.00%	2.27%	0.00%	0.00%	2.27%	3.41%	92.05%	
Psych 1	3	1	3	8	6	24	421	466
Row %	0.64%	0.21%	0.64%	1.72%	1.29%	5.15%	90.34%	
Totals	3	4	3	10	8	33	651	712

	Chi-square	**df**	**p**
Pearson Chi-square	14.26681	df=12	p=.28401

No significant group effect on the responses to item 8.

Table 29. Frequency Table and Chi-Square Test by Groups for Item 9

(9) In my entire life I have felt some sexual attraction towards a person (or people) of the opposite sex								
	More than 200 times	**Between 100 and 200 times**	**Between 50 and 100 times**	**Between 20 and 50 times**	**More than once but less than 20 times**	**Once**	**Never**	**Row**
Scholars	48	19	23	36	52	5	5	188
Row %	25.53%	10.11%	12.23%	19.15%	27.66%	2.66%	2.66%	
Psych 3	20	14	14	27	21	1	1	98
Row %	20.41%	14.29%	14.29%	27.55%	21.43%	1.02%	1.02%	
Psych 1	206	73	90	77	91	5	3	545
Row %	37.80%	13.39%	16.51%	14.13%	16.70%	0.92%	0.55%	
Totals	274	106	127	140	164	11	9	831

	Chi-square	**df**	**p**
Pearson Chi-square	42.18150	df=12	p=.00003

There is a significant group effect ($p < 0.001$). The distributions of the responses to item 9 are significantly different, with the Psych 1's once again tending towards the most extreme frequencies relative to the other two groups.

Table 30. Frequency Table and Chi-Square Test by Groups for Item 10

(10) In my entire life I have felt some sexual attraction towards a person (or people) of the same sex								
	More than 200 times	**Between 100 and 200 times**	**Between 50 and 100 times**	**Between 20 and 50 times**	**More than once but less than 20 times**	**Once**	**Never**	**Row**
Scholars	1	1	1	2	10	9	141	165
Row %	0.61%	0.61%	0.61%	1.21%	6.06%	5.45%	85.45%	
Psych 3	1	1	1	2	8	7	70	90
Row %	1.11%	1.11%	1.11%	2.22%	8.89%	7.78%	77.78%	
Psych 1	7	1	8	16	51	47	359	489
Row %	1.43%	0.20%	1.64%	3.27%	10.43%	9.61%	73.42%	
Totals	9	3	10	20	69	63	570	744

	Chi-square	**df**	**p**
Pearson Chi-square	12.99671	df=12	p=.36929

No significant group effect on the responses to item 10.

Table 31. Frequency Table and Chi-Square Test by Groups for Item 11

(11) I would describe the MOST sexual attraction that I have ever felt towards someone of the opposite sex as being _____ intense.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	48	51	38	18	14	15	4	188
Row %	25.53%	27.13%	20.21%	9.57%	7.45%	7.98%	2.13%	
Psych 3	42	34	10	5	4	2	2	99
Row %	42.42%	34.34%	10.10%	5.05%	4.04%	2.02%	2.02%	
Psych 1	239	140	88	42	12	19	4	544
Row %	43.93%	25.74%	16.18%	7.72%	2.21%	3.49%	0.74%	
Totals	329	225	136	65	30	36	10	831

	Chi-square	**df**	**p**
Pearson Chi-square	41.71326	df=12	p=.00004

There is a significant group effect ($p < 0.001$). The distributions of the responses to item 11 are significantly different as evident above.

Table 32. Frequency Table and Chi-Square Test by Groups for Item 12

(12) I would describe the MOST sexual attraction that I have ever felt towards someone of the same sex as being _____ intense.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	0	3	4	0	4	10	143	164
Row %	0.00%	1.83%	2.44%	0.00%	2.44%	6.10%	87.20 %	
Psych 3	3	2	1	1	4	9	69	89
Row %	3.37%	2.25%	1.12%	1.12%	4.49%	10.11%	77.53 %	
Psych 1	5	9	16	19	14	51	371	485
Row %	1.03%	1.86%	3.30%	3.92%	2.89%	10.52%	76.49 %	
Totals	8	14	21	20	22	70	583	738

	Chi-square	**df**	**p**
Pearson Chi-square	20.63087	df=12	p=.05607

No significant group effect on the responses to item 12.

Table 33. Frequency Table and Chi-Square Test by Groups for Item 13

(13) I would describe my AVERAGE experience of feeling sexual attraction towards someone (or some people) of the opposite sex over the last 30 days as having been _____ intense.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	29	46	38	19	24	21	11	188
Row %	15.43%	24.47%	20.21%	10.11%	12.77%	11.17%	5.85%	
Psych 3	14	22	30	13	7	7	6	99
Row %	14.14%	22.22%	30.30%	13.13%	7.07%	7.07%	6.06%	
Psych 1	73	125	122	105	42	51	25	543
Row %	13.44%	23.02%	22.47%	19.34%	7.73%	9.39%	4.60%	
Totals	116	193	190	137	73	79	42	830

	Chi-square	**df**	**p**
Pearson Chi-square	17.78552	df=12	p=.12238

No significant group effect on the responses to item 13.

Table 34. Frequency Table and Chi-Square Test by Groups for Item 14

(14) I would describe my AVERAGE experience of feeling sexual attraction towards someone (or some people) of the same sex over the last 30 days as having been _____ intense.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	0	1	4	0	1	9	148	163
Row %	0.00%	0.61%	2.45%	0.00%	0.61%	5.52%	90.80 %	
Psych 3	2	0	1	0	2	3	81	89
Row %	2.25%	0.00%	1.12%	0.00%	2.25%	3.37%	91.01 %	
Psych 1	2	4	6	10	9	21	436	488
Row %	0.41%	0.82%	1.23%	2.05%	1.84%	4.30%	89.34 %	
Totals	4	5	11	10	12	33	665	740

	Chi-square	**df**	**p**
Pearson Chi-square	15.18195	df=12	p=.23166

No significant group effect on the responses to item 14.

Table 35. Frequency Table and Chi-Square Test by Groups for Item 15

(15) I would estimate that I have experienced sexual attraction towards someone of the opposite sex over the last 30 days _____ time(s).								
	More than 30	**25 - 30**	**21 - 24**	**11 - 20**	**5 - 10**	**1 - 4**	**No**	**Row**
Scholars	15	18	18	32	40	46	18	187
Row %	8.02%	9.63%	9.63%	17.11%	21.39%	24.60%	9.63%	
Psych 3	13	5	10	22	22	23	4	99
Row %	13.13%	5.05%	10.10%	22.22%	22.22%	23.23%	4.04%	
Psych 1	79	58	66	91	92	135	22	543
Row %	14.55%	10.68%	12.15%	16.76%	16.94%	24.86%	4.05%	
Totals	107	81	94	145	154	204	44	829

	Chi-square	**df**	**p**
Pearson Chi-square	20.56247	df=12	p=.05718

No significant group effect on the responses to item 15.

Table 36. Frequency Table and Chi-Square Test by Groups for Item 16

(16) I would estimate that I have experienced sexual attraction towards someone of the same sex over the last 30 days _____ time(s).								
	More than 30	**25 - 30**	**21 - 24**	**11 - 20**	**5 - 10**	**1 - 4**	**No**	**Row**
Scholars	0	1	1	0	1	7	151	161
Row %	0.00%	0.62%	0.62%	0.00%	0.62%	4.35%	93.79%	
Psych 3	0	2	0	1	1	5	80	89
Row %	0.00%	2.25%	0.00%	1.12%	1.12%	5.62%	89.89%	
Psych 1	3	0	2	2	9	26	440	482
Row %	0.62%	0.00%	0.41%	0.41%	1.87%	5.39%	91.29%	
Totals	3	3	3	3	11	38	671	732

	Chi-square	**df**	**p**
Pearson Chi-square	15.09622	df=12	p=.23624

No significant group effect on the responses to item 16.

Table 37. Frequency Table and Chi-Square Test by Groups for Item 17

(17) In my entire life I have had intimate physical contact with a person (or people) of the opposite sex…								
	More than 200 times	**Between 100 and 200 times**	**Between 50 and 100 times**	**Between 20 and 50 times**	**More than once but less than 20 times**	**Once**	**Never**	**Row**
Scholars	11	10	15	42	82	14	14	188
Row %	5.85%	5.32%	7.98%	22.34%	43.62%	7.45%	7.45%	
Psych 3	18	8	12	22	31	1	6	98
Row %	18.37%	8.16%	12.24%	22.45%	31.63%	1.02%	6.12%	
Psych 1	76	38	63	116	200	13	32	538
Row %	14.13%	7.06%	11.71%	21.56%	37.17%	2.42%	5.95%	
Totals	105	56	90	180	313	28	52	824

	Chi-square	**df**	**p**
Pearson Chi-square	28.62088	df=12	p=.00449

There is a significant group effect ($p < 0.01$). The distributions of the responses to item 17 are significantly different, with the Scholars reporting substantially less extreme frequencies of sexual contact than the other two groups and in fact less frequency of sexual contact generally.

Table 38. Frequency Table and Chi-Square Test by Groups for Item 18

(18) In my entire life I have had intimate physical contact with a person (or people) of the same sex…								
	More than 200 times	Between 100 and 200 times	Between 50 and 100 times	Between 20 and 50 times	More than once but less than 20 times	Once	Never	Row
Scholars	0	0	1	1	10	15	140	167
Row %	0.00%	0.00%	0.60%	0.60%	5.99%	8.98%	83.83%	
Psych 3	0	0	0	2	8	7	76	93
Row %	0.00%	0.00%	0.00%	2.15%	8.60%	7.53%	81.72%	
Psych 1	1	1	3	3	48	39	401	496
Row %	0.20%	0.20%	0.60%	0.60%	9.68%	7.86%	80.85%	
Totals	1	1	4	6	66	61	617	756

	Chi-square	df	p
Pearson Chi-square	6.388733	df=12	p=.89523

No significant group effect on the responses to item 18.

Table 39. Frequency Table and Chi-Square Test by Groups for Item 19

(19) I would describe the MOST pleasure that I have ever experienced from having intimate physical contact with a person of the opposite sex as being _____ pleasurable.								
	Extremely	Very	Significantly	Moderately	Mildly	Slightly	Not At All	Row
Scholars	79	46	22	12	3	8	19	189
Row %	41.80%	24.34%	11.64%	6.35%	1.59%	4.23%	10.05%	
Psych 3	52	26	8	6	0	0	7	99
Row %	52.53%	26.26%	8.08%	6.06%	0.00%	0.00%	7.07%	
Psych 1	284	114	56	35	13	5	35	542
Row %	52.40%	21.03%	10.33%	6.46%	2.40%	0.92%	6.46%	
Totals	415	186	86	53	16	13	61	830

	Chi-square	df	p
Pearson Chi-square	22.22365	df=12	p=.03510

There is a significant group effect ($p < 0.05$). The distributions of the responses to item 19 are significantly different, with the Scholars tending to report less intense sexual contact than the other two groups.

Table 40. Frequency Table and Chi-Square Test by Groups for Item 20

(20) I would describe the MOST pleasure that I have ever experienced from having intimate physical contact with a person of the same sex as being _____ pleasurable.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	2	0	2	1	3	7	151	166
Row %	1.20%	0.00%	1.20%	0.60%	1.81%	4.22%	90.96%	
Psych 3	3	1	1	0	0	7	81	93
Row %	3.23%	1.08%	1.08%	0.00%	0.00%	7.53%	87.10%	
Psych 1	7	7	7	14	10	28	424	497
Row %	1.41%	1.41%	1.41%	2.82%	2.01%	5.63%	85.31%	
Totals	12	8	10	15	13	42	656	756

	Chi-square	**df**	**p**
Pearson Chi-square	12.93171	df=12	p=.37404

No significant group effect on the responses to item 20.

Table 41. Frequency Table and Chi-Square Test by Groups for Item 21

(21) I would describe my AVERAGE experience of having intimate physical contact with someone of the opposite sex over the last 30 days as being _____ pleasurable.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	34	38	22	19	9	12	53	187
Row %	18.18%	20.32%	11.76%	10.16%	4.81%	6.42%	28.34%	
Psych 3	21	25	17	7	5	1	22	98
Row %	21.43%	25.51%	17.35%	7.14%	5.10%	1.02%	22.45%	
Psych 1	90	92	93	63	34	21	146	539
Row %	16.70%	17.07%	17.25%	11.69%	6.31%	3.90%	27.09%	
Totals	145	155	132	89	48	34	221	824

	Chi-square	**df**	**p**
Pearson Chi-square	15.19376	df=12	p=.23103

No significant group effect on the responses to item 21.

Table 42. Frequency Table and Chi-Square Test by Groups for Item 22

(22) I would describe my AVERAGE experience of having intimate physical contact with someone of the same sex over the last 30 days as being _____ pleasurable.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	0	1	2	1	0	2	157	163
Row %	0.00%	0.61%	1.23%	0.61%	0.00%	1.23%	96.32%	
Psych 3	1	1	0	0	0	0	91	93
Row %	1.08%	1.08%	0.00%	0.00%	0.00%	0.00%	97.85%	
Psych 1	0	0	3	4	6	7	474	494
Row %	0.00%	0.00%	0.61%	0.81%	1.21%	1.42%	95.95%	
Totals	1	2	5	5	6	9	722	750

	Chi-square	**df**	**p**
Pearson Chi-square	18.03922	df=12	p=.11453

No significant group effect on the responses to item 22.

Table 43. Frequency Table and Chi-Square Test by Groups for Item 23

(23) I would estimate that I have had intimate physical contact with someone of the opposite sex over the last 30 days _____ time(s).								
	More than 30	**25 - 30**	**21 - 24**	**11 - 20**	**5 - 10**	**1 – 4**	**No**	**Row**
Scholars	8	7	4	17	33	52	66	187
Row %	4.28%	3.74%	2.14%	9.09%	17.65%	27.81%	35.29%	
Psych 3	4	7	3	11	16	29	28	98
Row %	4.08%	7.14%	3.06%	11.22%	16.33%	29.59%	28.57%	
Psych 1	36	21	20	48	74	183	158	540
Row %	6.67%	3.89%	3.70%	8.89%	13.70%	33.89%	29.26%	
Totals	48	35	27	76	123	264	252	825

	Chi-square	**df**	**p**
Pearson Chi-square	10.90335	df=12	p=.53722

No significant group effect on the responses to item 23.

Table 44. Frequency Table and Chi-Square Test by Groups for Item 24

(24) I would estimate that I have had intimate physical contact with someone of the same sex over the last 30 days _____ time(s).					
	11 - 20	**5 - 10**	**1 – 4**	**No**	**Row**
Scholars	0	1	1	163	165
Row %	0.00%	0.61%	0.61%	98.79%	
Psych 3	0	1	0	91	92
Row %	0.00%	1.09%	0.00%	98.91%	
Psych 1	1	4	9	480	494
Row %	0.20%	0.81%	1.82%	97.17%	
Totals	1	6	10	734	751

	Chi-square	**df**	**p**
Pearson Chi-square	3.510579	df=6	P=.74256

No significant group effect on the responses to item 24.

Table 45. Frequency Table and Chi-Square Test by Groups for Item 25

(25) In my entire life I have felt that I was 'in love' with _____ different people (person) of the opposite sex.								
	More Than 50	**Between 20 and 50**	**Between 10 and 20**	**Between 5 and 10**	**More than 1 but less than 5**	**One**	**No**	**Row**
Scholars	6	4	15	32	85	41	6	189
Row %	3.17%	2.12%	7.94%	16.93%	44.97%	21.69%	3.17%	
Psych 3	0	1	2	13	53	25	4	98
Row %	0.00%	1.02%	2.04%	13.27%	54.08%	25.51%	4.08%	
Psych 1	7	12	23	62	253	155	33	545
Row %	1.28%	2.20%	4.22%	11.38%	46.42%	28.44%	6.06%	
Totals	13	17	40	107	391	221	43	832

	Chi-square	**df**	**p**
Pearson Chi-square	20.90791	df=12	p=.05176

No significant group effect on the responses to item 25.

Table 46. Frequency Table and Chi-Square Test by Groups for Item 26

(26) In my entire life I have felt that I was 'in love' with _____ different people (person) of the same sex.							
	Between 20 and 50	**Between 10 and 20**	**Between 5 and 10**	**More than 1 but less than 5**	**one**	**No**	**Row**
Scholars	0	0	0	4	4	156	164
Row %	0.00%	0.00%	0.00%	2.44%	2.44%	95.12%	
Psych 3	1	0	2	2	5	83	93
Row %	1.08%	0.00%	2.15%	2.15%	5.38%	89.25%	
Psych 1	0	2	4	9	15	466	496
Row %	0.00%	0.40%	0.81%	1.81%	3.02%	93.95%	
Totals	1	2	6	15	24	705	753

	Chi-square	**df**	**p**
Pearson Chi-square	13.79698	df=10	p=.18247

No significant group effect on the responses to item 26.

Table 47. Frequency Table and Chi-Square Test by Groups for Item 27

(27) I would describe the MOST 'in love' that I have ever been with someone of the opposite sex as being _____ 'in love'.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	78	45	32	14	5	13	2	189
Row %	41.27%	23.81%	16.93%	7.41%	2.65%	6.88%	1.06%	
Psych 3	47	19	17	6	5	2	3	99
Row %	47.47%	19.19%	17.17%	6.06%	5.05%	2.02%	3.03%	
Psych 1	229	145	82	41	17	13	18	545
Row %	42.02%	26.61%	15.05%	7.52%	3.12%	2.39%	3.30%	
Totals	354	209	131	61	27	28	23	833

	Chi-square	**df**	**p**
Pearson Chi-square	16.23305	df=12	p=.18082

No significant group effect on the responses to item 27.

Table 48. Frequency Table and Chi-Square Test by Groups for Item 28

(28) I would describe the MOST 'in love' that I have ever been with someone of the same sex as being _____ 'in love'.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	1	1	1	1	1	2	158	165
Row %	0.61%	0.61%	0.61%	0.61%	0.61%	1.21%	95.76%	
Psych 3	3	1	4	0	0	1	85	94
Row %	3.19%	1.06%	4.26%	0.00%	0.00%	1.06%	90.43%	
Psych 1	5	2	7	4	4	6	467	495
Row %	1.01%	0.40%	1.41%	0.81%	0.81%	1.21%	94.34%	
Totals	9	4	12	5	5	9	710	754

	Chi-square	**df**	**p**
Pearson Chi-square	11.50434	df=12	p=.48627

No significant group effect on the responses to item 28.

Table 49. Frequency Table and Chi-Square Test by Groups for Item 29

(29) I would describe my AVERAGE experience of being 'in love' with someone of the opposite sex over the last 30 days as being _____ 'in love'.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	40	36	26	18	21	23	25	189
Row %	21.16%	19.05%	13.76%	9.52%	11.11%	12.17%	13.23%	
Psych 3	25	16	10	9	11	7	21	99
Row %	25.25%	16.16%	10.10%	9.09%	11.11%	7.07%	21.21%	
Psych 1	101	81	79	46	33	53	149	542
Row %	18.63%	14.94%	14.58%	8.49%	6.09%	9.78%	27.49%	
Totals	166	133	115	73	65	83	195	830

	Chi-square	**df**	**p**
Pearson Chi-square	25.07338	df=12	p=.01449

There is a significant group effect ($p < 0.05$). The distributions of the responses to item 29 are significantly different, with the Scholars showing a more even distribution of responses and the Psych 3's tending more towards the extreme responses and the Psych 1's towards the minimal responses relative to the other groups.

Table 50. Frequency Table and Chi-Square Test by Groups for Item 30

(30) I would describe my AVERAGE experience of being 'in love' with someone of the same sex over the last 30 days as being _____ 'in love'.								
	Extremely	**Very**	**Significantly**	**Moderately**	**Mildly**	**Slightly**	**Not At All**	**Row**
Scholars	0	2	0	0	2	2	159	165
Row %	0.00%	1.21%	0.00%	0.00%	1.21%	1.21%	96.36%	
Psych 3	1	0	0	1	2	0	89	93
Row %	1.08%	0.00%	0.00%	1.08%	2.15%	0.00%	95.70%	
Psych 1	0	0	2	4	4	6	476	492
Row %	0.00%	0.00%	0.41%	0.81%	0.81%	1.22%	96.75%	
Totals	1	2	2	5	8	8	724	750

	Chi-square	**df**	**p**
Pearson Chi-square	19.19095	df=12	p=.08404

No significant group effect on the responses to item 30.

Table 51. Frequency Table and Chi-Square Test by Groups for Item 31

(31) Over the last 30 days I have experienced feelings of being 'in love' with someone of the opposite sex _____ time(s)								
	More than 30	**25 - 30**	**21 - 24**	**11 - 20**	**5 - 10**	**1 - 4**	**No**	**Row**
Scholars	34	7	9	12	25	69	33	189
Row %	17.99%	3.70%	4.76%	6.35%	13.23%	36.51%	17.46%	
Psych 3	25	6	6	4	9	26	23	99
Row %	25.25%	6.06%	6.06%	4.04%	9.09%	26.26%	23.23%	
Psych 1	104	35	25	35	33	139	172	543
Row %	19.15%	6.45%	4.60%	6.45%	6.08%	25.60%	31.68%	
Totals	163	48	40	51	67	234	228	831

	Chi-square	**df**	**p**
Pearson Chi-square	31.09328	df=12	p=.00191

There is a significant group effect ($p < 0.01$). The distributions of the responses to item 31 are significantly different, with the Psych 3's tending to report more frequent responses than their counterparts in the other two groups.

Table 52. Frequency Table and Chi-Square Test by Groups for Item 32

(32) Over the last 30 days I have experienced feelings of being 'in love' with someone of the same sex _____ time(s).							
	More than 30	**21 - 24**	**11 - 20**	**5 - 10**	**1 - 4**	**No**	**Row**
Scholars	2	0	0	0	2	162	166
Row %	1.20%	0.00%	0.00%	0.00%	1.20%	97.59%	
Psych 3	1	1	0	0	1	90	93
Row %	1.08%	1.08%	0.00%	0.00%	1.08%	96.77%	
Psych 1	0	0	2	1	7	483	493
Row %	0.00%	0.00%	0.41%	0.20%	1.42%	97.97%	
Totals	3	1	2	1	10	735	752

	Chi-square	**df**	**p**
Pearson Chi-square	14.50444	df=10	P=.15122

No significant group effect on the responses to item 32.

An examination of the above tables reveals that eight items evidenced significant group effects, i.e. the distributions of responses in the different groups were found to be significantly different. These items were 1, 3, 9, 11, 17, 19, 29 and 31. These items all related to Sexual Responsiveness towards the Opposite Sex over the course of the entire Lifespan to date, except for the last two items which related to (Emotional) Responsiveness also towards the Opposite Sex over the previous Month only. These eight items represent half of the items which deal with Opposite Sex Responsiveness.

Dimension Analysis

The following 36 item groupings or dimensions were analyzed:

Table 53. Descriptive Statistics for Item Groupings

Item grouping	Valid N	Mean	Minimum	Maximum	Std.Dev.
Fantasy (1-8)	670	5.089	1.250	7.00	0.902
Fantasy Lifelong (1-4)	698	4.708	1.000	7.00	1.046
Fantasy Month (5-8)	696	5.485	1.500	7.00	0.907
Fantasy Frequency Opposite (1,5)	814	3.404	1.000	7.00	1.476
Fantasy Intensity Opposite (3,7)	826	3.880	1.000	7.00	1.509
Fantasy Frequency Same (2,6)	691	6.519	1.000	7.00	1.030
Fantasy Intensity Same (4,8)	705	6.613	1.000	7.00	0.958
Attraction (9-16)	670	4.980	1.188	7.00	0.860
Attraction Lifelong (9-12)	670	5.089	1.250	7.00	0.902
Attraction Month (13-16)	734	4.528	1.000	7.00	0.885
Attraction Frequency Opposite (9,13)	828	3.086	1.000	7.00	1.354
Attraction Intensity Opposite (11,15)	827	3.202	1.000	7.00	1.377
Attraction Frequency Same (10,14)	737	6.635	1.000	7.00	0.860
Attraction Intensity Same (12,16)	727	6.668	1.000	7.00	0.869
Contact (17-24)	662	5.256	1.523	7.00	0.759
Contact Lifelong (17-20)	664	5.351	1.297	7.00	0.709
Contact Month (21-24)	719	4.899	1.250	7.00	0.775
Contact Frequency Opposite (17,21)	817	3.939	1.000	7.00	1.631
Contact Intensity Opposite (19,23)	825	3.816	1.000	7.00	1.430
Contact Frequency Same (18,22)	747	6.799	2.500	7.00	0.529
Contact Intensity Same (20,24)	750	6.807	2.500	7.00	0.616
Emotion (25-32)	713	4.995	2.188	7.00	0.791
Emotion Lifelong (25-28)	743	5.727	2.500	7.00	0.980
Emotion Month (29-32)	662	5.612	2.080	7.00	0.563
Emotion Frequency Opposite (25,29)	829	4.473	1.000	7.00	1.355
Emotion Intensity Opposite (27,31)	831	3.481	1.000	7.00	1.626
Emotion Frequency Same (26,30)	748	6.903	3.000	7.00	0.439
Emotion Intensity Same (28,32)	750	6.873	1.000	7.00	0.594
Opposite Frequency (1,9,17,25)	793	3.719	1.375	7.00	1.063
Opposite Intensity (3,11,19,27)	814	3.589	1.000	7.00	1.097
Same Frequency (2,10,18,26)	687	6.709	2.750	7.00	0.600
Same Intensity (4,8,12,16,20,24,28,32)	697	6.737	1.750	7.00	0.651
Opposite (odd numbers 1-31)	786	3.648	1.313	7.00	1.042
Same (even numbers 2-32)	672	6.718	2.563	7.00	0.621
Frequency	669	5.210	3.000	7.00	0.609
Intensity	690	5.162	2.625	7.00	0.637

Table 54. ANOVA Tests – Tests for Group Effect

	SS effect	df	MS effect	SS Error	df	MS error	F	p
Fantasy	17.94	2	8.97	526.56	667	0.79	11.36	**0.000014**
Fantasy Lifelong	31.96	2	15.98	730.33	695	1.05	15.20	**0.000000**
Fantasy Month	8.56	2	4.29	562.89	693	0.81	5.28	**0.005293**
Fantasy Freq. Opposite	27.09	2	13.55	1743.59	811	2.15	6.30	**0.001926**
Fantasy Intens. Opposite	49.14	2	24.57	1828.63	823	2.22	11.06	**0.000018**
Fantasy Frequency Same	7.11	2	3.55	725.15	688	1.05	3.37	**0.034917**
Fantasy Intensity Same	4.33	2	2.16	641.96	702	0.91	2.37	0.094504
Attraction	20.85	2	10.43	474.23	667	0.71	14.67	**0.000001**
Attraction Lifelong	17.94	2	8.97	526.56	667	0.79	11.36	**0.000014**
Attraction Month	29.55	2	14.78	545.62	731	0.75	19.80	**0.000000**
Attraction Freq. Opposite	20.83	2	10.41	1494.58	825	1.81	5.75	**0.003316**
Attraction Int. Opposite	42.27	2	21.13	1524.01	824	1.85	11.43	**0.000013**
Attraction Freq. Same	3.05	2	1.52	541.77	734	0.74	2.06	0.127676
Attraction Int. Same	3.33	2	1.67	544.70	724	0.75	2.21	0.110096
Contact	8.74	2	4.37	371.66	659	0.56	7.74	**0.000474**
Contact Lifelong	12.72	2	6.36	320.85	661	0.49	13.11	**0.000003**
Contact Month	12.62	2	6.31	418.17	716	0.58	10.80	**0.000024**
Contact Freq. Opposite	24.75	2	12.38	2147.19	814	2.64	4.69	**0.009417**
Contact Intensity Opposite	13.61	2	6.80	1670.89	822	2.03	3.35	**0.035649**
Contact Frequency Same	0.11	2	0.06	208.77	744	0.28	0.20	0.820779
Contact Intensity Same	1.23	2	0.62	283.23	747	0.38	1.63	0.197257
Emotion	9.44	2	4.72	436.56	710	0.61	7.67	**0.000504**
Emotion Lifelong	3.27	2	1.64	708.71	740	0.96	1.71	0.181939
Emotion Month	6.47	2	3.23	203.08	659	0.31	10.50	**0.000033**
Emotion Freq. Opposite	22.84	2	11.42	1497.80	826	1.81	6.30	**0.001930**
Emotion Intens. Opposite	4.24	2	2.12	2189.22	828	2.64	0.80	0.449062
Emotion Frequency Same	0.70	2	0.35	143.53	745	0.19	1.81	0.164706
Emotion Intensity Same	1.41	2	0.71	262.56	747	0.35	2.01	0.135096
Opposite Frequency	5.88	2	2.94	888.75	790	1.13	2.61	0.074075
Opposite Intensity	18.08	2	9.04	960.90	811	1.18	7.63	**0.000522**
Same Frequency	1.59	2	0.79	245.73	684	0.36	2.21	0.110701
Same Intensity	1.74	2	0.87	292.87	694	0.42	2.06	0.128662
Opposite	11.77	2	5.89	840.73	783	1.07	5.48	**0.004320**
Same	1.67	2	0.83	257.03	669	0.38	2.17	0.115186
Frequency	2.88	2	1.44	244.49	666	0.37	3.93	**0.020177**
Intensity	7.56	2	3.78	272.08	687	0.40	9.54	**0.000082**

The **bold** depicts item groupings with significant differences between the 3 sample groups. – Marked effects are significant at $p < .05000$

From the above table it can be seen that there is a significant difference between the three sample groups with regard to responses to 23 of the 36 designated groupings of items. There was no significant difference between the groups with regard to the responses indicating total responsiveness towards the Same Sex. This held true for the groupings of items measuring both the Intensity of Same Sex responsiveness as well as the Frequency of Same Sex responsiveness. Interestingly, while the total responsiveness towards the Opposite Sex and the Intensity of Opposite Sex responsiveness were both significantly different between groups, the Frequency of Opposite Sex responsiveness was not significantly different between groups.

Whereas all 4 of the major proposed dimensions' total responses were significantly different between groups, 5 out of 6 of the groupings of items involving Fantasy were found to be significantly different between groups whereas only 2 out of 6 groupings of items involving Emotion were significantly different between groups. Significantly different item groupings involving Attraction and Contact numbered 4 out of 6 each. Of interest is that the only grouping measuring Same Sex responsiveness to show a significant difference between groups was the Fantasy-Frequency grouping possibly suggesting the superior sensitivity of this item grouping to differentiate within an adolescent sample. This suggestion was, however, tentative because of the assumptions underlying ANOVA procedures which assume that the variance is equal across groups and a test for the homogeneity of variances (as depicted in the following table) revealed which responses to item groupings failed to meet this criterion. These clusters of items included the Same Sex Fantasy-Frequency grouping referred to above although results of the non-parametric test (to follow) would confirm the ANOVA findings.

This was further investigated by means of Multiple Comparison Tests (Scheffé) which were applied to the 23 designated clusters of items which the ANOVAs suggested were significantly different in terms of the responses of the 3 sample groups. These are useful for determining exactly which groups are significantly different from each other. These are portrayed in the Scheffé Test tables below and suggest that in the case of Same Sex Fantasy-Frequency cluster of items the Scholars and Psych 1 students are significantly different but only at the $p < 0.05$ level.

Table 55. Tests for Homogeneity of the Variances

Levene Test of Homogeneity of Variances - Marked effects are significant at p < .05000								
	SS effect	**df**	**MS effect**	**SS error**	**Df**	**MS Error**	**F**	**P**
Fantasy	0.27	2	0.13	210.29	667	0.32	0.42	0.657020
Fantasy Lifelong	0.80	2	0.40	297.06	695	0.43	0.94	0.392253
Fantasy Month	0.87	2	0.44	207.64	693	0.30	1.46	0.233141
Fantasy Freq. Opposite	9.06	2	4.53	525.93	811	0.65	6.98	**0.000984**
Fantasy Intens. Opposite	2.54	2	1.27	612.22	823	0.74	1.70	0.182435
Fantasy Frequency Same	9.28	2	4.64	410.99	688	0.60	7.77	**0.000460**
Fantasy Intensity Same	7.98	2	3.99	383.11	702	0.55	7.31	**0.000720**
Attraction	0.42	2	0.21	186.55	667	0.28	0.74	0.475722
Attraction Lifelong	0.27	2	0.13	210.29	667	0.32	0.42	0.657020
Attraction Month	0.08	2	0.04	226.94	731	0.31	0.13	0.877550
Attraction Freq. Opposite	4.06	2	2.03	504.73	825	0.61	3.32	**0.036810**
Attraction Intens. Opposite	0.91	2	0.46	540.09	824	0.66	0.69	0.499542
Attraction Freq. Same	3.64	2	1.82	317.27	734	0.43	4.21	**0.015175**
Attraction Intens. Same	5.57	2	2.78	345.23	724	0.48	5.84	**0.003052**
Contact	0.40	2	0.40	159.58	659	0.24	0.83	0.436143
Contact Lifelong	0.14	2	0.07	151.90	661	0.23	0.30	0.741228
Contact Month	0.62	2	0.31	166.50	716	0.23	1.34	0.263058
Contact Freq. Opposite	0.74	2	0.37	673.70	814	0.83	0.45	0.638334
Contact Intensity Opposite	0.54	2	0.27	734.08	822	0.89	0.30	0.739061
Contact Frequency Same	0.21	2	0.10	129.12	744	0.17	0.59	0.552975
Contact Intensity Same	2.97	2	1.49	197.55	747	0.26	5.62	**0.003779**
Emotion	0.10	2	0.05	176.57	710	0.25	0.20	0.822308
Emotion Lifelong	0.26	2	0.13	233.52	740	0.32	0.41	0.665549
Emotion Month	0.13	2	0.07	91.77	659	0.14	0.47	0.625500
Emotion Freq. Opposite	0.70	2	0.35	380.38	826	0.46	0.76	0.467336
Emotion Intens. Opposite	7.24	2	3.62	726.73	828	0.88	4.12	**0.016524**
Emotion Frequency Same	1.94	2	0.97	117.67	745	0.16	6.14	**0.002266**
Emotion Intensity Same	4.49	2	2.24	216.05	747	0.29	7.76	**0.000464**
Opposite Frequency	0.10	2	0.05	311.35	790	0.39	0.13	0.877193
Opposite Intensity	0.33	2	0.17	355.34	811	0.44	0.38	0.683229
Same Frequency	1.60	2	0.80	145.93	684	0.21	3.76	**0.023725**
Same Intensity	2.95	2	1.48	186.18	694	0.27	5.50	**0.004255**
Opposite	0.17	2	0.09	296.96	783	0.38	0.23	0.798191
Same	2.14	2	1.07	159.24	669	0.24	4.50	**0.011422**
Frequency	0.11	2	0.05	92.14	666	0.14	0.39	0.676988
Intensity	0.05	2	0.02	108.73	687	0.16	0.15	0.858873

The Multiple Comparison Tests (Scheffé) tables below provide the *p*-values of the ANOVA tests:

Table 56. Fantasy

	Scholars	**Psych 3**	**Psych 1**
Scholars		0.206892	**0.000018**
Psych 3	0.206892		0.256120
Psych 1	**0.000018**	0.256120	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) with regard to responses to the total Fantasy item cluster.

Table 57. Fantasy Lifelong

	Scholars	**Psych 3**	**Psych 1**
Scholars		**0.027575**	**0.000000**
Psych 3	**0.027575**		0.466058
Psych 1	**0.000000**	0.466058	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) and also between the Scholar and Psych 3 groups ($p < 0.05$) with regard to responses to the cluster of items measuring Fantasy over the entire Lifespan.

Table 58. Fantasy Month

	Scholars	**Psych 3**	**Psych 1**
Scholars		0.988353	**0.017150**
Psych 3	0.988353		0.114055
Psych 1	**0.017150**	0.114055	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.05$) with regard to responses to the cluster of items measuring Fantasy over the previous Month.

Table 59. Fantasy Frequency Opposite

	Scholars	Psych 3	Psych 1
Scholars		0.305295	**0.002001**
Psych 3	0.305295		0.622000
Psych 1	**0.002001**	0.622000	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.01$) with regard to responses to the cluster of items measuring the Frequency of Fantasy towards the Opposite Sex.

Table 60. Fantasy Intensity Opposite

	Scholars	Psych 3	Psych 1
Scholars		0.522659	**0.000043**
Psych 3	0.522659		0.089297
Psych 1	**0.000043**	0.089297	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) with regard to responses to the cluster of items measuring the Intensity of Fantasy towards the Opposite Sex.

Table 61. Fantasy Frequency Same

	Scholars	Psych 3	Psych 1
Scholars		0.271788	**0.037087**
Psych 3	0.271788		0.986143
Psych 1	**0.037087**	0.986143	

As mentioned above a significant difference was found between the Scholar and Psych 1 groups ($p < 0.05$) with regard to responses to the cluster of items measuring the Frequency of Fantasy towards the Same Sex.

Table 62. Attraction

	Scholars	Psych 3	Psych 1
Scholars		0.254496	**0.000001**
Psych 3	0.254496		0.083166
Psych 1	**0.000001**	0.083166	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) with regard to responses to the total Attraction item cluster.

Table 63. Attraction Lifelong

	Scholars	Psych 3	Psych 1
Scholars		0.206892	**0.000018**
Psych 3	0.206892		0.256120
Psych 1	**0.000018**	0.256120	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) and also between the Scholar and Psych 3 groups ($p < 0.05$) with regard to responses to the cluster of items measuring Attraction over the entire Lifespan.

Table 64. Attraction Month

	Scholars	Psych 3	Psych 1
Scholars		**0.033551**	**0.000000**
Psych 3	**0.033551**		0.158616
Psych 1	**0.000000**	0.158616	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) with regard to responses to the cluster of items measuring Attraction over the previous Month. A less significant difference ($p < 0.05$) was also found between the Scholars and the Psych 3's.

Table 65. Attraction Frequency Opposite

	Scholars	Psych 3	Psych 1
Scholars		0.700015	**0.005067**
Psych 3	0.700015		0.298488
Psych 1	**0.005067**	0.298488	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.01$) with regard to responses to the cluster of items measuring the Frequency of Attraction towards the Opposite Sex.

Table 66. Attraction Intensity Opposite

	Scholars	Psych 3	Psych 1
Scholars		**0.020924**	**0.000014**
Psych 3	**0.020924**		0.871207
Psych 1	**0.000014**	0.871207	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) with regard to responses to the cluster of items measuring the Intensity of Attraction towards the Opposite Sex. A less significant difference ($p < 0.05$) was also found between the Scholars and the Psych 3's.

Table 67. Contact

	Scholars	Psych 3	Psych 1
Scholars		0.127233	**0.000474**
Psych 3	0.127233		0.743942
Psych 1	**0.000474**	0.743942	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.001$) with regard to responses to the total Contact item cluster.

Table 68. Contact Lifelong

	Scholars	Psych 3	Psych 1
Scholars		0.075400	**0.000003**
Psych 3	0.075400		0.372604
Psych 1	**0.000003**	0.372604	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) and also between the Scholar and Psych 3 groups ($p < 0.05$) with regard to responses to the cluster of items measuring Contact over the entire Lifespan.

Table 69. Contact Month

	Scholars	Psych 3	Psych 1
Scholars		0.123611	**0.000026**
Psych 3	0.123611		0.416437
Psych 1	**0.000026**	0.416437	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) with regard to responses to the cluster of items measuring Contact over the previous Month.

Table 70. Contact Frequency Opposite

	Scholars	Psych 3	Psych 1
Scholars		**0.010849**	0.140694
Psych 3	**0.010849**		0.167312
Psych 1	0.140694	0.167312	

A significant difference was found between the Scholar and Psych 3 groups ($p < 0.05$) with regard to responses to the cluster of items measuring the Frequency of Contact with the Opposite Sex.

Table 71. Contact Intensity Opposite

	Scholars	Psych 3	Psych 1
Scholars		0.094298	**0.045559**
Psych 3	0.094298		0.860912
Psych 1	**0.045559**	0.860912	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.05$) with regard to responses to the cluster of items measuring the Intensity of Contact with the Opposite Sex.

Table 72. Emotion

	Scholars	Psych 3	Psych 1
Scholars		**0.011197**	**0.001108**
Psych 3	**0.011197**		0.884776
Psych 1	**0.001108**	0.884776	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.01$) and the Scholar and Psych 3 groups ($p < 0.05$) with regard to responses to the total Emotion item cluster.

Table 73. Emotion Month

	Scholars	Psych 3	Psych 1
Scholars		0.088597	**0.000033**
Psych 3	0.088597		0.559412
Psych 1	**0.000033**	0.559412	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.0001$) with regard to responses to the cluster of items measuring Emotion over the previous Month.

Table 74. Emotion Frequency Opposite

	Scholars	Psych 3	Psych 1
Scholars		0.318385	**0.002021**
Psych 3	0.318385		0.604187
Psych 1	**0.002021**	0.604187	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.01$) with regard to responses to the cluster of items measuring the Frequency of Emotion towards the Opposite Sex.

Table 75. Opposite Intensity

	Scholars	Psych 3	Psych 1
Scholars		0.089855	**0.000539**
Psych 3	0.089855		0.869833
Psych 1	**0.000539**	0.869833	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.001$) with regard to responses to the cluster of items measuring the Intensity of responsiveness to the Opposite Sex.

Table 76. Opposite

	Scholars	Psych 3	Psych 1
Scholars		0.216340	**0.004341**
Psych 3	0.216340		0.853779
Psych 1	**0.004341**	0.853779	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.01$) with regard to responses to the cluster of items measuring the total responsiveness towards the Opposite Sex.

Table 77. Frequency

	Scholars	Psych 3	Psych 1
Scholars		0.308227	**0.020340**
Psych 3	0.308227		0.909290
Psych 1	**0.020340**	0.909290	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.05$) with regard to responses to the cluster of items measuring the total Frequency of responsiveness.

Table 78. Intensity

	Scholars	Psych 3	Psych 1
Scholars		0.073292	0.000082
Psych 3	0.073292		0.688693
Psych 1	**0.000082**	0.688693	

A significant difference was found between the Scholar and Psych 1 groups ($p < 0.05$) with regard to responses to the cluster of items measuring the total Intensity of responsiveness.

Dependent *t*-tests were performed to determine if there were significant differences between responses to the various designated item groupings. As evident in the table below, there is a significant difference between Fantasy and Attraction responses (*t*=12.9, 669 df, $p < 0.0001$); between Fantasy and Contact responses ($t = -8.54$, 661 df, $p < 0.0001$) and between Fantasy and Emotion ($t = 3.26$, 656 df, $p < 0.01$). Attraction and Contact responses were also significantly different ($t = 16.33$, 661 df, $p < 0.0001$) as were Contact and Emotion ($t = 12.21$, 654 df, $p < 0.0001$). Interestingly, differences between Attraction and Emotion responses were not found to be significant.

Table 79. Dependent t-tests: All groups

T-test for Dependent Samples								
	Mean	**Std.Dv.**	**N**	**Diff.**	**Std.Dv.**	**t**	**df**	**p**
Fantasy	5.09	0.90						
Attraction	4.98	0.86	670	0.108	0.218	12.90	669	**0.000000**
Fantasy	5.09	0.90						
Contact	5.26	0.76	662	-0.168	0.507	-8.54	661	**0.000000**
Fantasy	5.09	0.90						
Emotion	4.98	0.80	657	0.105	0.823	3.26	656	**0.001169**
Attraction	4.98	0.86						
Contact	5.26	0.76	662	-0.277	0.436	-16.33	661	**0.000000**
Attraction	4.98	0.86						
Emotion	4.98	0.80	657	-0.002	0.763	-0.08	656	0.935075
Contact	5.25	0.76						
Emotion	4.98	0.80	655	0.275	0.576	12.21	654	**0.000000**

The table below shows that the responses to the remaining 32 designated item groupings were all significantly different at the $p < 0.0001$ level except for the Intensity and Frequency responses to the Same Sex which were significantly different at the $p < 0.01$ level.

Table 80. *t*-test for Dependent Samples

	Mean	Std.Dv.	N	Diff.	Std.Dv.	t	df	P
Opposite Frequency	3.720579	1.062493						
Opposite Intensity	3.574746	1.097832	786	0.14583	0.569479	7.1794	785	**0.000000**
Opposite Frequency	3.713939	1.079755						
Same Frequency	6.706465	0.606420	669	-2.99253	1.259355	-61.4615	668	**0.000000**
Opposite Frequency	3.718889	1.076478						
Same Intensity	6.729259	0.659427	675	-3.01037	1.292018	-60.5346	674	**0.000000**
Opposite Frequency	3.718893	1.080018						
Same	6.713359	0.627541	655	-2.99447	1.276443	-60.0397	654	**0.000000**
Opposite Frequency	3.721168	1.076127						
Intensity	5.152623	0.638353	672	-1.43145	0.744174	-49.8641	671	**0.000000**
Opposite Intensity	3.580213	1.112704						
Same Frequency	6.708333	0.602449	681	-3.12812	1.283544	-63.5984	680	**0.000000**
Opposite Intensity	3.588225	1.118797						
Same Intensity	6.734964	0.653175	690	-3.14674	1.316527	-62.7849	689	**0.000000**
Opposite Intensity	3.585457	1.115705						
Same	6.717016	0.622801	667	-3.13156	1.300623	-62.1830	666	**0.000000**
Opposite Intensity	3.572556	1.115800						
Frequency	5.210526	0.607834	665	-1.63797	0.770274	-54.8367	664	**0.000000**
Same Frequency	6.703683	0.605657						
Same Intensity	6.731585	0.656994	672	-0.02790	0.234054	-3.0903	671	**0.002082**
Same Frequency	6.706955	0.607824						
Opposite	3.643327	1.060665	665	3.06363	1.243634	63.5264	664	**0.000000**
Same Frequency	6.703336	0.607295						
Intensity	5.158077	0.633474	667	1.54526	0.646420	61.7375	666	**0.000000**
Same Intensity	6.729167	0.660475						
Opposite	3.648624	1.062004	672	3.08054	1.277551	62.5077	671	**0.000000**
Same Intensity	6.725954	0.664101						
Frequency	5.209828	0.610362	655	1.51613	0.690938	56.1587	654	**0.000000**
Opposite	3.649732	1.062231						
Same	6.713574	0.628736	652	-3.06384	1.260882	-62.0463	651	**0.000000**
Frequency	5.211273	0.609857						
Intensity	5.152032	0.635294	652	0.05924	0.305914	4.9448	651	**0.000001**

Reliability

Whole Scale

The Cronbach *alpha* coefficient for Questionnaire 1, calculated for the entire sample was 0.85 and the standardized *alpha* was 0.87, indicating a good overall internal consistency for the questionnaire.

All Groups
Number of items in scale: 32
Number of valid cases: 652
Number of cases with missing data: 183
Missing data were deleted: casewise

Summary Statistics for Whole Scale (All Groups)
Mean: 165.81
Sum: 108110.00
Standard Deviation: 19.32
Variance: 373.11
Skewness: -.15
Kurtosis: .46
Minimum: 92.00
Maximum: 224.00
Cronbach's alpha: .85
Standardized alpha: .87
Average Inter-Item Correlation: .19

The table below provides data for all the groups for the whole scale. It shows the effect on the *alpha* if a particular item was omitted and also gives the correlation between that item's responses and that of the total. Only the omission of four items (24, 25, 30 and 32) could have marginally improved the reliability – and then only at the third or fourth decimal level.

Table 81. Summary for Scale: *alpha* if Items Deleted

Valid N:652

Cronbach *alpha*: .852413

	Item-Total Correaltion	Alpha if Deleted
Item1	0.455961	0.845420
Item2	0.376101	0.848019
Item3	0.469324	0.844948
Item4	0.386293	0.847667
Item5	0.524201	0.842974
Item6	0.284257	0.850258
Item7	0.499472	0.843874
Item8	0.306321	0.850321
Item9	0.438884	0.845996
Item10	0.402703	0.847736
Item11	0.487015	0.844817
Item12	0.380656	0.847943
Item13	0.545677	0.842422
Item14	0.285685	0.850338
Item15	0.561670	0.841568
Item16	0.276498	0.850810
Item17	0.445999	0.845766
Item18	0.393485	0.849050
Item19	0.448856	0.845652
Item20	0.360860	0.848533
Item21	0.417889	0.847848
Item22	0.176353	0.852160
Item23	0.411629	0.846894
Item24	0.211530	**0.852487**
Item25	0.140822	**0.853230**
Item26	0.216482	0.851863
Item27	0.375337	0.847958
Item28	0.192206	0.851951
Item29	0.354448	0.850589
Item30	0.132958	**0.852630**
Item31	0.364647	0.850193
Item32	0.101529	**0.852915**

Table 82. Group Comparison of Summary Statistics for Scale

	Scholars	Psych 3	Psych 1
Total Cases	189	99	547
Valid Cases	147	80	425
% Valid Cases	77.77	80.80	77.69
Cases Missing Data	42	19	122
% Cases Missing Data	22.22	19.19	22.30
Mean	170.87	165.40	164.14
Sum	25118.00	13232.00	69760.00
Standard Deviation	18.55	19.43	19.29
Variance	344.23	377.53	372.29
Skewness	-.20	-.70	-.03
Kurtosis	-.36	2.74	.40
Minimum	125.00	92.00	97.00
Maximum	215.00	207.00	224.00
Cronbach's *alpha*	**.85**	**.85**	**.85**
Standardized *alpha*	**.88**	**.86**	**.87**
Average Inter-item Correlation	.21	.19	.19

It is evident from the above table that similar Cronbach *alpha* coefficients (0.85) were obtained for all 3 groups. These suggested strong internal consistency reliability.

Scale Dimensions

The reliability of the 4 hypothesized dimensions was ascertained by determining the *alpha* coefficients of these individual dimensions for all the groups combined, as well as for each individual group separately.

Table 83. Scale Dimension *alpha* Coefficients

Dimension	Items	Whole group	Scholars	Psych 3's	Psych 1's
Fantasy	1-8	.76 (n=670)	.74 (n=151)	.69 (n=81)	.76 (n=438)
Attraction	9-16	.70 (n=719)	.70 (n=160)	.62 (n=89)	.70 (n=470)
Contact	17-24	.68 (n=734)	.69 (n=161)	.68 (n=91)	.68 (n=482)
Emotion	25-32	.60 (n=744)	.59 (n=164)	.65 (n=92)	.60 (n=488)

From the above table it is evident that the Fantasy dimension consistently obtained the highest internal consistency scores. None of the proposed dimensions fulfill Crano and Brewer's (1973) criterion of an *alpha* coefficient of 0.80. The Emotion dimension generally fared poorest with regard to internal consistency except in the case of Psychology 3rd years which was the smallest sample group.

Validity

All Groups

Table 84. Suitability of Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.866
Bartlett's Test of Sphericity	Approx. Chi-Square	13766.83
	Df	496
	Sig.	0.000

To ascertain the suitability of the items for factor analysis the strength of the relationship among variables has to be large enough. The Kaiser-Meyer-Olkin measure of sampling adequacy is an index for comparing the magnitudes of the observed correlation coefficients to the magnitudes of the partial correlation coefficients. Large values for the KMO measure indicate that a factor analysis of the variables is a good idea. The KMO measure for the questionnaire was 0.87 and thus suggested that to proceed with a factor analysis for the data was appropriate.

Another indicator of the strength of the relationship among variables is Bartlett's test of sphericity. This test is used to test the null hypothesis that the variables in the population correlation matrix are uncorrelated. The approximate Chi-square obtained was 13766.84 and the observed significance level was $p < 0.000$. This was small enough to reject the null hypothesis and suggested that the correlations among the different variables are significantly different from zero. It was therefore concluded that the strength of the relationship among variables is strong and, once again, a factor analysis of the data would be suitable.

Basic descriptive information on all 32 items upon which the factor analysis was performed is provided in the following table:

Table 85. Descriptive Statistics: Means and Standard Deviations (N=652)

	Means	Std.Devs
Item1	2.94	1.698
Item2	6.31	1.298
Item3	3.16	1.753
Item4	6.38	1.408
Item5	3.86	1.816
Item6	6.69	1.034
Item7	4.55	1.796
Item8	6.81	0.734
Item9	2.84	1.650
Item10	6.48	1.104
Item11	2.23	1.447
Item12	6.46	1.264
Item13	3.30	1.699
Item14	6.74	0.906
Item15	4.13	1.847
Item16	6.83	0.695
Item17	3.99	1.652
Item18	6.68	0.747
Item19	2.21	1.782
Item20	6.62	1.164
Item21	3.90	2.287
Item22	6.90	0.583
Item23	5.40	1.719
Item24	6.97	0.239
Item25	5.00	1.109
Item26	6.89	0.493
Item27	2.23	1.536
Item28	6.79	0.926
Item29	3.94	2.279
Item30	6.91	0.532
Item31	4.71	2.289
Item32	6.94	0.460

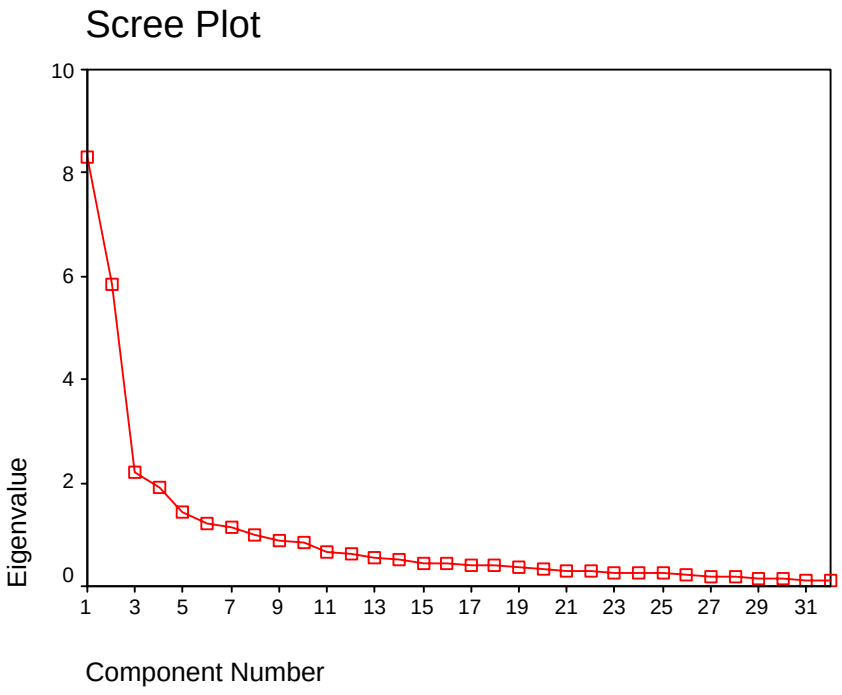
Eight factors, accounting for 72% of the variation in the data, were identified using the Kaiser criteria which stipulate that only factors with an eigenvalue greater than 1 be considered, as evident in the following table:

Table 86. Eigenvalues

	Eigenvalue	% Total	Cumulative
1	8.311	25.971	25.971
2	5.839	18.246	44.218
3	2.219	6.935	51.153
4	1.903	5.947	57.099
5	1.424	4.450	61.549
6	1.212	3.789	65.338
7	1.130	3.530	68.868
8	1.002	3.131	71.999

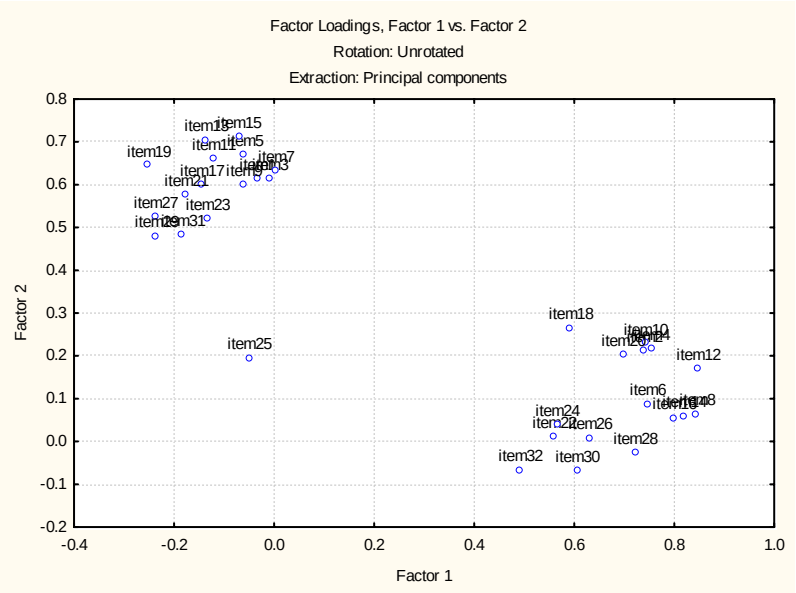
A root curve analysis (stop at the eigenvalue associated with the point of inflection of a scree plot of the eigenvalues from largest to smallest) (Weinrich et al., 1993) suggested that the number of factors be further reduced to 3.

Figure 7. Scree Plot of Eigenvalues: All Groups



Unrotated loadings show 2 main factors: Same Sex Responsiveness (Factor 1) and Opposite Sex Responsiveness (Factor 2). The same two factors emerged for each of the sample groups. As seen below item 25 was something of an anomaly.

Figure 8. Factor Loadings Graph: All Groups



The table below provides the factor loadings for each item for the unrotated orthogonal solution (principal components). The figures in bold represent the highest factor loading per item. From this it is evident that all the even numbered items load on Factor 1 at 0.56 or higher with the exception of item 32 with a factor loading of 0.49. This factor was named *Same Sex Responsiveness*. The items in both the Fantasy and Attraction dimensions load with a range of 0.74 to 0.85 – with three of the items in the Fantasy dimension falling below 0.80 while 3 of the items in the Attraction dimension fall above this level. The first item in each dimension (items 2 and 10) had the weakest loadings relative to the other items in each dimension. These were items dealing with Frequency of responsiveness over the entire Lifespan. The items in the Contact dimension loaded at between 0.56 and 0.70 while the items in the Emotion dimension ranged from 0.49 to 0.72.

Thirteen of the sixteen odd numbered items loaded most heavily on Factor 2 – named *Opposite Sex Responsiveness* – at 0.52 or higher. The three exceptions all belong to the Emotion dimension. Items 29 and 31 loaded at 0.48 with the former

being the item's second largest loading and the latter the item's largest loading. Item 25 did not load on Factor 2 for reasons which remained unclear.

Table 87. Orthogonal Factor Loadings (Unrotated)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Item1	-0.033	**0.611**	0.419	-0.338	0.025	0.092	-0.194	0.206
Item2	**0.741**	0.210	0.245	0.323	0.063	0.024	-0.004	0.067
Item3	-0.008	**0.611**	0.354	-0.210	0.052	-0.338	0.072	-0.013
Item4	**0.755**	0.214	0.200	0.325	0.003	-0.093	0.034	0.002
Item5	-0.058	**0.669**	0.218	-0.120	0.101	-0.323	0.338	-0.011
Item6	**0.747**	0.087	0.111	0.185	0.001	-0.101	0.186	0.020
Item7	0.004	**0.631**	0.252	-0.326	0.084	0.074	0.207	0.208
Item8	**0.846**	0.063	0.035	0.071	-0.009	0.005	0.156	0.117
Item9	-0.060	**0.599**	0.327	-0.330	0.014	0.265	-0.269	0.085
Item10	**0.743**	0.228	0.183	0.249	0.125	0.166	-0.115	0.025
Item11	-0.120	**0.658**	0.121	-0.079	-0.097	-0.149	-0.168	-0.272
Item12	**0.849**	0.169	0.129	0.229	0.031	-0.012	-0.013	-0.065
Item13	-0.135	**0.704**	-0.094	-0.034	-0.104	-0.035	0.293	-0.313
Item14	**0.821**	0.058	0.011	0.086	-0.085	-0.095	0.169	-0.060
Item15	-0.070	**0.710**	0.021	-0.212	-0.047	0.233	0.229	0.151
Item16	**0.800**	0.053	0.031	0.022	-0.005	0.052	0.077	0.100
Item17	-0.144	**0.598**	-0.173	0.132	-0.276	0.300	-0.320	0.129
Item18	**0.593**	0.265	0.022	0.187	-0.059	-0.011	-0.339	0.054
Item19	-0.251	**0.644**	-0.112	0.164	-0.271	0.034	-0.232	-0.168
Item20	**0.698**	0.201	-0.074	0.103	-0.168	-0.085	-0.255	-0.116
Item21	-0.175	**0.574**	-0.366	0.149	-0.318	0.147	0.281	-0.226
Item22	**0.561**	0.010	-0.304	-0.283	-0.264	-0.358	-0.084	-0.121
Item23	-0.133	**0.518**	-0.470	0.230	-0.207	0.298	0.196	0.076
Item24	**0.566**	0.038	-0.321	-0.434	-0.228	-0.253	-0.113	0.009
Item25	-0.049	0.195	-0.012	-0.170	**0.584**	0.121	-0.091	-0.482
Item26	**0.632**	0.006	-0.211	-0.132	0.318	0.348	0.064	-0.198
Item27	-0.237	**0.522**	-0.194	0.199	0.333	-0.254	-0.295	-0.147
Item28	**0.723**	-0.028	-0.241	-0.219	0.223	0.274	0.043	-0.115
Item29	-0.235	0.480	**-0.533**	0.212	0.397	-0.199	-0.005	0.184
Item30	**0.606**	-0.070	-0.335	-0.455	0.115	0.109	-0.012	0.083
Item31	-0.182	**0.482**	-0.454	0.220	0.356	-0.181	-0.015	0.424
Item32	**0.493**	-0.067	-0.414	-0.473	-0.076	-0.108	-0.094	0.131
Expl.Var	8.311	5.839	2.219	1.903	1.424	1.212	1.130	1.002
Prp.Totl	0.260	0.182	0.069	0.059	0.044	0.038	0.035	0.031

To more clearly separate the loadings of items on overlapping factors the orthogonality requirement was relaxed so as to obtain an oblique solution primary pattern matrix. These loadings are presented in the following table and once again the highest loading per item is in bold.

Table 88. Oblique Factor Loadings

	1	2	3	4	5	6	7	8
Item1	.001	**.854**	.034	-.215	-.049	.134	-.039	.276
Item2	**.987**	.063	-.244	-.067	.034	-.006	-.042	.039
Item3	.107	**.651**	.080	-.144	.041	.353	-.004	-.209
Item4	**.978**	.001	-.154	-.021	.023	.083	-.066	-.047
Item5	.122	**.585**	-.024	.084	.146	.201	.000	-.379
Item6	**.807**	.003	-.021	.018	.001	-.091	-.077	-.182
Item7	.008	**.818**	.014	.042	.043	-.123	-.035	-.026
Item8	**.761**	.064	.116	.014	.011	-.233	-.106	-.080
Item9	-.073	**.729**	.002	-.082	-.140	.173	.113	.411
Item10	**.897**	.062	-.209	-.063	.017	.009	.109	.172
Item11	-.007	.295	.077	.158	-.090	**.642**	.169	.101
Item12	.925	-.035	-.049	-.010	-.033	.074	.060	-.003
Item13	-.035	.209	-.021	**.603**	-.079	.332	.189	-.145
Item14	**.724**	-.056	.164	.098	-.088	-.053	-.046	-.162
Item15	-.043	**.620**	-.011	.387	.029	-.126	-.046	.124
Item16	**.675**	.072	.143	-.013	-.018	-.201	-.061	-.006
Item17	.030	.123	-.006	.398	.072	.230	-.181	**.661**
Item18	**.661**	-.011	.113	-.088	.089	.257	-.061	.323
Item19	-.011	.026	-.024	.434	-.014	**.558**	-.023	.377
Item20	**.606**	-.131	.301	.045	-.053	.325	-.008	.203
Item21	-.059	-.110	-.025	**.894**	-.069	.170	-.015	.079
Item22	.067	-.110	**.845**	.029	-.048	.255	-.101	-.087
Item23	.017	-.104	-.074	**.787**	.188	-.099	-.143	.269
Item24	-.040	.058	**.939**	-.025	-.013	.112	-.121	.008
Item25	-.161	.034	-.141	-.102	.036	.335	**.918**	-.159
Item26	.296	-.084	.095	.120	-.032	-.200	.547	-.006
Item27	.015	-.050	-.033	-.073	.509	**.629**	.324	.050
Item28	.280	-.042	.292	.074	-.032	-.230	**.407**	.008
Item29	-.057	-.075	.067	.093	**.856**	.144	.096	-.044
Item30	-.032	.107	**.667**	-.063	.070	-.278	.164	.023
Item31	.041	.072	.059	-.009	**.929**	-.026	-.132	.039
Item32	-.170	.059	**.896**	-.076	.113	-.120	-.066	.045

The extraction method was Principal Component Analysis and the rotation method was Promax with Kaiser Normalization. The rotation converged in 8 iterations.

Once again a majority (ten out of sixteen) of the even numbered items loaded most strongly on Factor 1 – *Same Sex Responsiveness* – and at a 0.60 level or higher. These included all the items in the Fantasy and Attraction dimensions and the first half of the items in the Contact dimension. None of the items in the Emotion dimension loaded for oblique Factor 1.

Only six out of sixteen (all odd numbered) items loaded for oblique Factor 2. These included all the odd numbered items in the Fantasy dimension and half of the odd numbered items in the Attraction cluster. None of the Contact or Emotion dimension items featured. This factor was named *Opposite Sex (Fantasy/Attraction) Responsiveness*. Factor 3 contains items dealing with the *Same Sex over the previous Month* (excluding Fantasy and Attraction items). It does not discriminate between Intensity and Frequency of responsiveness. Factor 4 contains items dealing with the *Opposite Sex over the previous Month* (particularly pertaining to Attraction and Contact). It also does not discriminate between Intensity and Frequency of responsiveness.

Although on the basis of the oblique solution only 4 factors (accounting for 57% of the variance) were decided on for further psychometric analysis, an examination of the eight factors identified according to the Kaiser criteria is elucidating in terms of conceptualizing sexual orientation and its (overlapping) components as well as for determining why item 25 responses were so idiosyncratic. Of the 8 factors identified in this way, only Factor 7 contains items which pertained to both Same and Opposite Sex Responsiveness, further supporting the finding in the principal components analysis that these two emerge as distinct and important, independent components of the construct, sexual orientation.

Factor 5 contains items which deal with *Opposite Sex Emotion*. It also does not discriminate between Intensity and Frequency of responsiveness. Factor 6 consists only of items dealing with *Intensity of responsiveness towards the Opposite Sex over the entire Lifespan*. Factor 7 is limited to *Emotion* related items which concern the

entire *Lifespan* and does not discriminate between Same and Opposite Sex or between Intensity and Frequency. Factor 7 contains the interesting item 25 referred to above. Factor 8 consists of a single item (17) and can best be described as *Frequency of Opposite Sex Contact over the entire Lifespan*.

The four factors that account for the majority of the variance include all of the Fantasy items, seven of the eight Attraction items, six of the eight Contact items and only two of the eight Emotion items. Altogether these four factors contain 23 of the 32 items in the questionnaire.

The following table shows how the four factors which account for most of the variance intercorrelate.

Table 89. Component Correlation Matrix

Component	1	2	3	4
1	1.000	.070	**.539**	.045
2	.070	1.000	-.056	**.375**
3	**.539**	-.056	1.000	.044
4	.045	**.375**	.044	1.000

From the above it can be seen that, as expected, Factors 1 and 3, which both pertain to Same Sex responsiveness, show a positive correlation of 0.54. Similarly, Factors 2 and 4, which both pertain to Opposite Sex responsiveness, show a positive correlation of 0.375. Noteworthy, is the fact that no strong correlation is shown to exist between Factors 1 and 2 or Factors 1 and 4. Similarly no strong correlation exists between Factors 3 and 2 and Factors 3 and 4. This supports the notion that measurement of sexual orientation should not treat Same Sex and Opposite Sex responsiveness as if these were perfectly negatively correlated and should rather deal with these dimensions as being independent of each other, particularly in adolescents.

Scholars Only

Table 90. Suitability of Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.801
Bartlett's Test of Sphericity	Approx. Chi-Square	4058.598
	Df	496
	Sig.	.000

a Only cases for which GROUP = 1 are used in the analysis phase.

The KMO measure of sampling adequacy is large (0.80) and therefore indicates that a factor analysis of the variables would be appropriate. Bartlett's test of sphericity Chi-Square(496) = 4058.60, $p < 0.0001$ strongly implies that the correlations among the variables are significantly different to zero and it is therefore concluded that the strength of the relationship among variables is strong thus also indicating the appropriateness of proceeding a factor analysis.

Basic descriptive information on all 32 items – as responded to by the Scholar Group (147) – upon which the factor analysis was performed is provided in the following table:

Table 91. Descriptive Statistics: Means and Standard Deviations (N=147)

	Means	Std.Devs
Item1	3.429	1.630
Item2	6.599	0.919
Item3	3.741	1.941
Item4	6.605	1.063
Item5	4.143	2.007
Item6	6.796	0.827
Item7	4.850	1.741
Item8	6.884	0.568
Item9	3.313	1.755
Item10	6.687	0.913
Item11	2.741	1.618
Item12	6.694	0.962
Item13	3.361	1.824
Item14	6.782	0.807
Item15	4.510	1.815
Item16	6.884	0.580
Item17	4.415	1.461
Item18	6.748	0.660
Item19	2.503	1.946
Item20	6.755	0.919
Item21	4.034	2.380
Item22	6.878	0.671
Item23	5.524	1.648
Item24	6.980	0.184
Item25	4.701	1.230
Item26	6.939	0.315
Item27	2.327	1.531
Item28	6.871	0.743
Item29	3.612	2.118
Item30	6.905	0.612
Item31	4.755	2.105
Item32	6.905	0.705

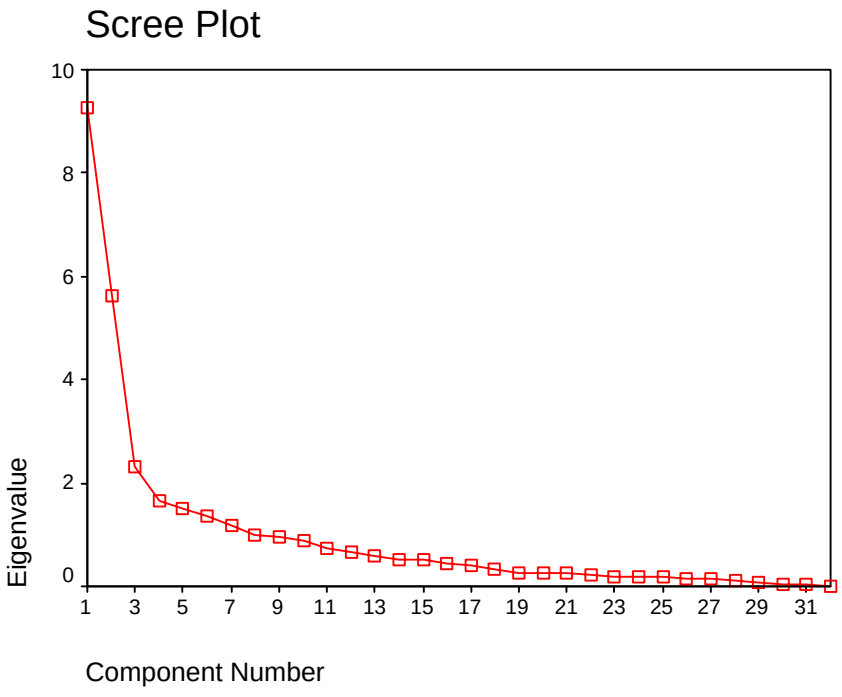
Eight factors, accounting for 75% of the variation in the data, were identified using the Kaiser criteria which stipulate that only factors with an eigenvalue greater than 1 be considered, as evident in the following table:

Table 92. Eigenvalues

	Eigenvalue	% Total	Cumulative
1	9.273	28.977	28.977
2	5.616	17.550	46.527
3	2.324	7.262	53.789
4	1.669	5.217	59.006
5	1.498	4.680	63.686
6	1.363	4.258	67.944
7	1.170	3.656	71.600
8	1.009	3.154	74.754

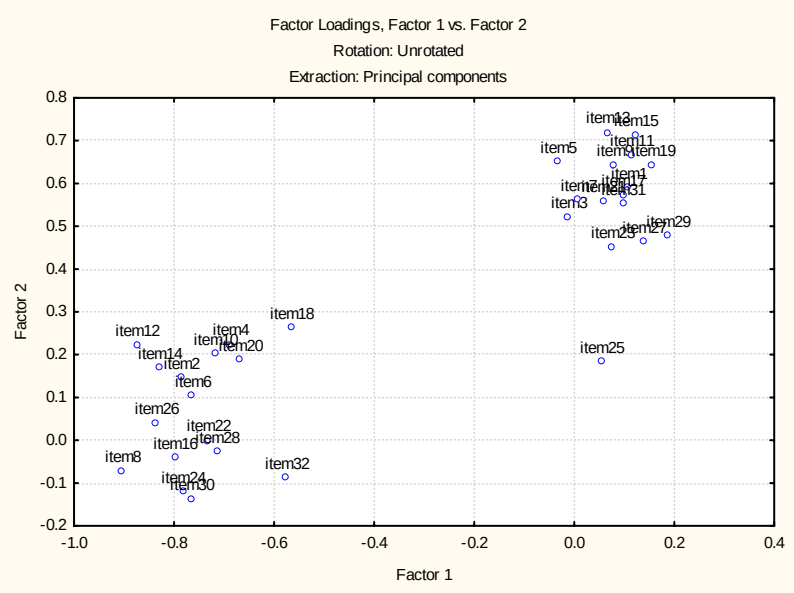
A root curve analysis (stop at the eigenvalue associated with the point of inflection of a scree plot of the eigenvalues from largest to smallest) (Weinrich et al., 1993) suggested that the number of factors be further reduced to 3.

Figure 9. Scree Plot of Eigenvalues: Scholars Only



Unrotated loadings show 2 main factors: Same Sex Responsiveness (Factor 1) and Opposite Sex Responsiveness (Factor 2).

Figure 10. Factor Loadings Graph: Scholars Only



The table below provides the factor loadings for each item for the unrotated orthogonal solution (principal components). The figures in bold represent the highest factor loading per item.

As with the entire sample all the even numbered items in this group loaded on Factor 1 and this at level 0.56 or higher. It was therefore also named *Same Sex Responsiveness*. Factor 2 was once again associated with the even numbered items and was named *Opposite Sex Responsiveness*. Once again the items with the lowest loadings on this factor were from the Emotion grouping of items. The only items to load most heavily on any other factor once again fell within the Emotion grouping of items. These were item 29 which also loaded on Factor 2 (at 0.48 however) and once again the anomalous item 25.

Table 93. Orthogonal Factor Loadings (Unrotated)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Item1	0.120	**0.589**	0.449	0.297	-0.185	-0.097	0.043	0.219
Item2	**-0.790**	0.145	0.208	-0.064	-0.156	0.389	-0.042	-0.018
Item3	-0.010	**0.521**	0.566	0.062	0.182	0.018	-0.108	-0.235
Item4	**-0.687**	0.223	0.326	-0.314	0.072	0.289	-0.029	0.048
Item5	-0.032	**0.649**	0.376	0.003	0.058	-0.011	-0.086	-0.458
Item6	**-0.762**	0.103	0.117	-0.173	0.303	-0.097	0.189	0.064
Item7	0.009	**0.560**	0.311	0.138	-0.187	-0.078	0.203	-0.179
Item8	**-0.902**	-0.073	-0.020	0.139	-0.187	-0.026	0.178	-0.082
Item9	0.081	**0.643**	0.161	0.231	-0.175	-0.233	0.005	0.390
Item10	**-0.716**	0.201	-0.004	0.050	-0.133	0.375	-0.006	0.061
Item11	0.116	**0.666**	0.182	-0.172	0.012	-0.316	-0.046	0.052
Item12	**-0.874**	0.222	0.050	-0.185	0.150	0.130	0.030	0.066
Item13	0.067	**0.718**	-0.038	-0.206	0.000	-0.251	0.059	-0.068
Item14	**-0.828**	0.168	0.169	-0.272	0.165	0.078	0.068	0.047
Item15	0.124	**0.711**	0.001	0.170	-0.312	-0.126	-0.065	-0.033
Item16	**-0.797**	-0.042	0.008	0.077	-0.284	0.109	0.004	-0.024
Item17	0.099	**0.572**	-0.400	-0.190	-0.229	0.106	0.123	0.338
Item18	**-0.564**	0.262	-0.085	0.154	-0.156	0.267	-0.483	0.167
Item19	0.158	**0.642**	-0.284	-0.284	0.014	-0.116	0.148	0.128
Item20	**-0.667**	0.186	-0.126	-0.008	0.159	-0.184	-0.382	0.270
Item21	0.058	**0.558**	-0.442	-0.417	-0.036	0.009	0.095	-0.249
Item22	**-0.731**	-0.001	-0.062	-0.132	0.340	-0.334	-0.183	-0.008
Item23	0.077	0.450	**-0.558**	-0.247	-0.230	0.178	0.044	-0.130
Item24	**-0.781**	-0.121	-0.203	0.100	0.087	-0.309	-0.204	-0.066
Item25	0.056	0.183	-0.002	0.393	**0.445**	0.110	0.426	0.240
Item26	**-0.835**	0.039	-0.121	0.037	0.190	-0.202	0.254	-0.046
Item27	0.140	**0.462**	-0.168	0.203	0.390	0.246	0.076	0.108
Item28	**-0.714**	-0.027	-0.195	0.243	-0.130	-0.091	0.298	-0.109
Item29	0.188	**0.477**	-0.459	0.332	0.411	0.173	-0.089	-0.169
Item30	**-0.764**	-0.139	-0.143	0.329	-0.268	-0.055	0.288	-0.123
Item31	0.099	**0.550**	-0.278	0.453	0.132	0.195	-0.220	-0.177
Item32	**-0.574**	-0.089	-0.325	0.231	-0.134	-0.362	-0.199	-0.079
Expl.Var	9.273	5.616	2.324	1.669	1.498	1.363	1.170	1.009
Prp.Totl	0.290	0.175	0.073	0.052	0.047	0.043	0.037	0.032

The oblique solution factor loadings for the Scholar group are presented in the following table:

Table 94. Oblique Factor Loadings

	Component							
	1	2	3	4	5	6	7	8
Item1	.007	.033	-.243	**.810**	-.127	.219	.017	.071
Item2	**.892**	.130	-.014	-.047	-.156	.131	-.061	.285
Item3	.257	-.226	-.265	.170	-.017	**.710**	.093	.030
Item4	**.985**	-.196	.035	-.069	-.027	.170	-.081	.103
Item5	.155	-.027	.038	.027	-.054	**.839**	.029	.034
Item6	**.542**	.140	.005	-.034	.291	.041	.078	-.264
Item7	.007	.296	.065	.384	-.266	**.472**	-.033	-.133
Item8	.334	**.703**	-.029	.025	.068	.012	-.090	-.022
Item9	-.116	.021	-.026	**.885**	.117	-.059	.029	.102
Item10	**.738**	.215	.070	.008	-.118	-.026	.100	.304
Item11	-.049	-.203	.232	**.442**	.229	.275	-.121	-.076
Item12	**.789**	.077	.113	-.066	.211	.031	.065	.049
Item13	-.047	-.033	**.487**	.263	.142	.267	-.040	-.128
Item14	**.795**	.021	.078	-.073	.186	.087	-.031	-.061
Item15	-.185	.172	.252	**.518**	-.028	.251	-.037	.207
Item16	.446	**.472**	-.017	.039	.017	-.019	-.163	.205
Item17	.164	-.043	**.707**	.329	-.141	-.393	.054	.102
Item18	.501	-.107	-.077	.157	.288	-.076	.065	**.754**
Item19	.015	-.106	**.684**	.204	.043	-.087	.064	-.140
Item20	.275	-.136	-.075	.199	**.766**	-.175	.037	.372
Item21	.074	.009	**.914**	-.266	-.041	.135	-.005	-.084
Item22	.184	.024	-.068	-.111	**.774**	.049	-.005	-.014
Item23	.068	.100	**.862**	-.191	-.184	-.082	.026	.141
Item24	-.011	.357	-.105	-.071	**.691**	-.020	-.044	.144
Item25	.023	.158	-.224	.211	-.166	-.149	**.713**	-.341
Item26	.236	**.546**	.060	-.049	.330	-.001	.126	-.269
Item27	.144	-.170	.082	.031	-.052	-.008	**.665**	.042
Item28	.064	**.830**	.068	.023	.037	-.037	.069	-.144
Item29	-.193	-.019	.188	-.209	.132	.137	**.766**	.192
Item30	.056	**.947**	-.036	.059	-.047	-.044	-.012	-.078
Item31	-.146	.071	.047	.021	.069	.253	**.578**	.422
Item32	-.311	.522	-.025	.063	**.593**	-.073	-.103	.210

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.
a Rotation converged in 19 iterations.

In the Scholar group the items were more evenly distributed among the 8 oblique factors that emerged than was the case in the entire adolescent sample group. Not one of the oblique factors included items from both Opposite Sex and Same Sex dimensions, strengthening the conceptual distinction between these two factors.

The factors dealing with Same Sex responsiveness included Factors 1, 2, 5 and 8 and will be dealt with first to facilitate clarity. Oblique Factor 1 could be named *Same Sex Responsiveness* and included seven items from the Fantasy, Attraction and Contact groupings loading at levels of 0.5 and above (although the single Contact item did have higher loadings for another factor). Items loading above the 0.5 level for oblique Factor 2 included all the Emotion items as well as a single item relating to Fantasy and could be named *Same Sex Emotion/Fantasy Responsiveness*. The Fantasy item here pertained to Intensity of responsiveness over the previous Month. Factor 5 contained four items, three of which dealt with Contact and the final one with Intensity of Emotion over the previous Month and could be named *Same Sex Contact*. The Emotion item also loaded heavily for another factor. Factor 8 consisted of a single item (item 18) dealing with the *Frequency of Contact with the Same Sex over the entire Lifespan*. This item also loaded at a 0.5 level for Factor 1.

The factors dealing with Opposite Sex responsiveness included factors 3, 4, 6 and 7. Five items loaded at a 0.5 level or higher for Factor 3 most of which were within the Contact grouping of items and this factor could consequently be named *Opposite Sex Responsiveness*. Factor 4 loading (above 0.5 level) items deal with Attraction but also include an item pertaining to Fantasy and relate to Frequency of responsiveness towards the Opposite Sex over the entire Lifespan and could be named *Opposite Sex (Fantasy/Attraction) Responsiveness*. Factor 6 contains two items (above the 0.5 level) which both fall within the Fantasy dimension and can thus be named *Opposite Sex Fantasy*. Finally, Factor 7 contains all four items in the Emotion dimension and no other dimensions feature and can thus be named *Opposite Sex Emotion*.

It is of interest that, for the Scholar group, each of the four Opposite Sex Responsiveness oblique factors contains items which are largely from the same item groupings. In this regard, Factor 7 contains only items from the Emotion dimension,

Factor 6 contains only items from the Fantasy dimension, 2 out of 3 items in Factor 4 are from the Attraction dimension and all four items loading for Factor 3 are from, and comprise the entire, opposite sex Contact dimension. This lends credence to the notion that Fantasy, Attraction, Contact and Emotion should be conceptualised as separate dimensions of sexual orientations – at least as far as Scholars are concerned. Although this pertains only to the Opposite Sex it should be noted that the overwhelming number of Scholars responded with typical heavily heterosexual responses.

The following table shows how the factors which account for most of the variance intercorrelate.

Table 95. Component Correlation Matrix

Component	1	2	3	4	5	6	7	8
1	1.000	**.475**	-.080	.070	**.487**	.034	-.065	-.141
2	**.475**	1.000	-.139	-.163	**.377**	-.120	-.089	.198
3	-.080	-.139	1.000	**.376**	.073	**.308**	**.305**	.126
4	.070	-.163	.376	1.000	-.021	**.394**	**.275**	-.033
5	**.487**	**.377**	.073	-.021	1.000	.053	.016	-.176
6	.034	-.120	**.308**	**.394**	.053	1.000	.192	.026
7	-.065	-.089	**.305**	.275	.016	.192	1.000	.031
8	-.141	.198	.126	-.033	-.176	.026	.031	1.000

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.
a Only cases for which GROUP = 1 are used in the analysis phase.

As evident in the table above, which provides the oblique solution factor intercorrelations, the following factors intercorrelate positively with a range of between 0.38 and 0.49: Factors 1 and 2; 1 and 5; 2 and 5. This was to be expected as these factors all related to Same Sex Responsiveness. With regard to Opposite Sex Responsiveness the following factors intercorrelate positively, albeit less strongly: Factors 3 and 4; 3 and 6; 3 and 7; 4 and 6; 4 and 7. The range here varies between 0.28 and 0.39. Possibly most significant, once again, is the absence of a strong negative correlation between factors dealing with Same Sex Responsiveness and those dealing with Opposite Sex Responsiveness.

Psych 3 Students Only

Table 96. Suitability of Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.706
Bartlett's Test of Sphericity	Approx. Chi-Square	2798.436
	Df	496
	Sig.	.000

The KMO measure of sampling adequacy is large (0.71), albeit the smallest KMO measure obtained amongst the three sample groups, and therefore indicates that a factor analysis of the variables would be appropriate. Bartlett's test of sphericity Chi-Square(496) = 2798.43, $p < 0.0001$ strongly implies that the correlations among the variables are significantly different to zero and it is therefore concluded that the strength of the relationship among variables is strong thus also indicating the appropriateness of proceeding a factor analysis.

Basic descriptive information on all 32 items – as responded to by the Psych 3 Group (80) – upon which the factor analysis was performed is provided in the following table:

Table 97. Descriptive Statistics: Means and Standard Deviations (N=80)

	Means	Std.Devs
Item1	3.138	1.541
Item2	6.275	1.321
Item3	3.150	1.623
Item4	6.300	1.618
Item5	3.850	1.692
Item6	6.650	1.148
Item7	5.163	1.496
Item8	6.788	0.852
Item9	3.325	1.499
Item10	6.475	1.169
Item11	1.988	1.217
Item12	6.363	1.486
Item13	3.150	1.670
Item14	6.713	1.081
Item15	4.325	1.636
Item16	6.750	0.893
Item17	3.825	1.727
Item18	6.675	0.708
Item19	2.138	1.748
Item20	6.575	1.339
Item21	3.450	2.250
Item22	6.863	0.868
Item23	5.325	1.719
Item24	6.975	0.224
Item25	5.163	0.863
Item26	6.825	0.671
Item27	2.275	1.638
Item28	6.638	1.265
Item29	3.850	2.306
Item30	6.875	0.736
Item31	4.638	2.279
Item32	6.913	0.679

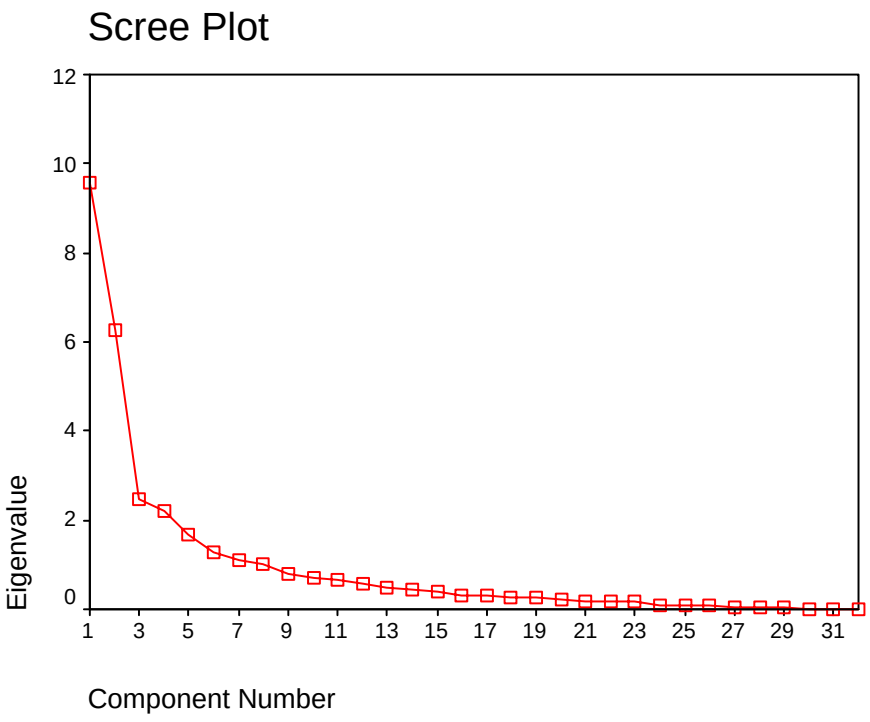
Once again eight factors, this time accounting for 80% of the variation in the data, were identified using the Kaiser criteria which stipulate that only factors with an eigenvalue greater than 1 be considered, as evident in the following table:

Table 98. Eigenvalues

	Eigenvalue	% Total	Cumulative
1	9.577	29.927	29.927
2	6.246	19.519	49.446
3	2.466	7.7052	57.150
4	2.225	6.953	64.104
5	1.671	5.220	69.324
6	1.291	4.034	73.358
7	1.090	3.408	76.766
8	1.006	3.144	79.910

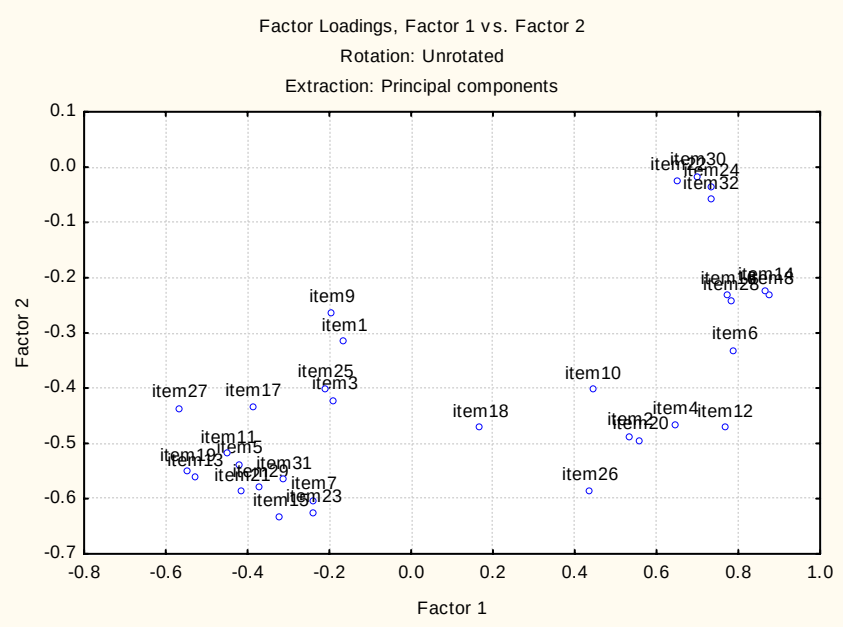
A root curve analysis (stop at the eigenvalue associated with the point of inflection of a scree plot of the eigenvalues from largest to smallest) (Weinrich et al., 1993) suggested that the number of factors be further reduced to 3.

Figure 11. Scree Plot of Eigenvalues: Psych 3's Only



Unrotated loadings show 2 main factors: Same Sex Responsiveness (Factor 1) and Opposite Sex Responsiveness (Factor 2).

Figure 12. Factor Loadings Graph: Psych 3's Only



The table below provides the factor loadings for each item for the unrotated orthogonal solution (principal components). The figures in bold represent the highest factor loading per item.

The unrotated orthogonal principal components factor analysis, consistent with that of the entire adolescent sample and the Scholar group, produced a Factor 1 which was strongly associated with the even numbered items and hence called *Same Sex Responsiveness*. Once again this factor included all the items from the Fantasy cluster. The even numbered items loaded on this factor at a level of 0.44 or higher with the exception of a single item (item 18). Thirteen of these even numbered items loaded more heavily on Factor 1 (at level 0.54 and above) than any other factor. The three exceptions (items 10, 18 and 26) all tapped for the Frequency of responsiveness to the Same Sex over the entire Lifespan. Interestingly, an odd numbered item (relating to Opposite Sex responsiveness) also loaded most heavily

for this factor. This item (item 27) loaded negatively on this factor, however, and loaded fairly strongly on Factor 2 as well, as expected.

Ten of the sixteen odd numbered items loaded most heavily for Factor 2 and all of these at a level above 0.52. Somewhat unusually, a single even numbered item (from the Emotion cluster) loaded above the 0.50 level as well but this item also loaded on Factor 1 at the 0.44 level. Of the remaining six odd numbered items four did load on this factor at a level of 0.4 and above. All six of these items have the following in common: they all tap for Lifelong responsiveness. This factor was named *Opposite Sex Responsiveness*.

Table 99. Orthogonal Factor Loadings (Unrotated)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Item1	-0.163	-0.318	-0.289	**-0.691**	0.152	-0.025	0.207	0.135
Item2	**0.536**	-0.488	-0.364	0.251	-0.063	-0.084	-0.219	-0.033
Item3	-0.186	-0.423	-0.106	**-0.482**	-0.443	0.190	-0.096	0.082
Item4	**0.647**	-0.469	-0.206	0.137	-0.176	-0.043	-0.119	0.275
Item5	-0.419	**-0.540**	0.041	-0.010	-0.505	0.223	-0.197	0.053
Item6	**0.792**	-0.333	-0.177	0.157	-0.207	-0.108	0.032	0.176
Item7	-0.237	-0.604	-0.026	-0.169	-0.192	0.173	**0.416**	0.332
Item8	**0.880**	-0.234	-0.020	0.061	-0.147	-0.159	0.061	0.142
Item9	-0.193	-0.265	-0.379	**-0.659**	0.144	-0.036	0.062	-0.028
Item10	0.445	-0.405	**-0.509**	-0.007	0.054	0.090	0.013	-0.508
Item11	-0.446	**-0.520**	0.100	-0.183	-0.057	0.126	-0.301	-0.159
Item12	**0.768**	-0.473	-0.264	0.116	-0.061	-0.062	-0.057	-0.126
Item13	-0.528	**-0.563**	0.261	0.177	-0.132	0.172	-0.053	0.145
Item14	**0.868**	-0.225	0.033	0.107	-0.124	-0.173	0.022	0.129
Item15	-0.318	**-0.635**	-0.008	-0.038	-0.268	0.116	0.256	-0.232
Item16	**0.776**	-0.233	-0.117	-0.127	-0.213	-0.112	-0.052	-0.389
Item17	-0.386	-0.435	-0.085	-0.281	0.275	**-0.488**	-0.182	0.103
Item18	0.170	-0.474	-0.013	-0.126	**0.540**	0.156	0.225	-0.035
Item19	-0.546	**-0.553**	0.037	-0.146	0.039	-0.143	-0.358	-0.006
Item20	**0.561**	-0.496	0.193	0.027	0.330	0.158	-0.066	0.201
Item21	-0.413	**-0.589**	0.199	0.037	0.043	-0.363	-0.173	-0.016
Item22	**0.654**	-0.027	0.547	-0.156	0.192	0.030	-0.150	-0.028
Item23	-0.238	**-0.627**	0.110	0.063	0.207	-0.442	0.246	-0.074
Item24	**0.735**	-0.038	0.536	-0.336	-0.089	-0.011	-0.061	-0.025
Item25	-0.209	-0.402	-0.135	0.167	0.363	**0.531**	-0.139	-0.108
Item26	0.438	**-0.588**	-0.193	0.244	0.280	0.217	0.006	0.213
Item27	**-0.566**	-0.437	0.264	0.160	0.182	0.014	-0.261	0.048
Item28	**0.783**	-0.244	0.024	0.116	0.206	0.095	0.019	0.020
Item29	-0.368	**-0.582**	0.420	0.354	-0.011	-0.026	0.225	-0.201
Item30	**0.702**	-0.018	0.476	-0.360	0.012	0.151	0.026	-0.114
Item31	-0.311	**-0.567**	0.338	0.254	-0.150	-0.111	0.344	-0.143
Item32	**0.734**	-0.060	0.519	-0.363	-0.051	0.052	-0.024	-0.065
Expl.Var	9.577	6.246	2.466	2.225	1.671	1.291	1.090	1.006
Prp.Totl	0.299	0.195	0.077	0.070	0.052	0.040	0.034	0.031

The oblique solution factor loadings for the Psych 3 group are presented in the following table:

Table 100. Oblique Factor Loadings

	Component							
	1	2	3	4	5	6	7	8
Item1	-.139	.030	-.106	.122	.103	**.874**	.031	-.014
Item2	**.945**	-.250	-.113	.187	.096	-.133	.095	.278
Item3	.094	.159	-.114	.020	**.813**	.379	-.092	.007
Item4	**1.035**	-.087	-.151	.077	.222	-.031	-.035	-.072
Item5	.182	-.035	.105	.075	**.850**	-.093	-.004	-.036
Item6	**.972**	-.047	.005	-.067	.068	-.053	-.157	.009
Item7	.152	-.121	.411	-.225	.365	**.426**	.037	-.294
Item8	**.818**	.180	.034	-.044	-.037	-.029	-.216	-.012
Item9	-.161	-.019	-.200	.198	.126	**.783**	.059	.177
Item10	.364	-.158	.096	-.115	-.015	.131	.314	**.783**
Item11	-.157	.191	.015	.383	**.498**	.053	.216	.152
Item12	**.843**	.001	.034	.029	.028	-.031	.067	.359
Item13	.002	-.022	.317	.154	**.430**	-.154	.181	-.232
Item14	**.801**	.209	.038	.003	-.060	-.095	-.207	-.020
Item15	-.058	-.056	**.632**	-.111	.379	.128	.048	.261
Item16	.459	.324	.092	-.018	.093	-.002	-.156	**.553**
Item17	.091	-.097	-.062	**.873**	-.121	.391	-.180	-.076
Item18	-.050	.165	.195	-.001	-.318	.366	**.563**	.104
Item19	.015	.001	-.051	**.703**	.336	.101	.046	.004
Item20	**.450**	.396	-.054	.107	-.070	.038	.438	-.141
Item21	.113	.014	.301	**.729**	.075	-.029	-.161	-.044
Item22	-.006	**.891**	-.068	.124	-.105	-.116	.100	-.068
Item23	.090	-.100	**.666**	.492	-.320	.166	-.156	.045
Item24	.048	**.977**	.002	.024	.112	.006	-.166	-.055
Item25	-.092	-.108	-.093	-.113	.118	-.037	**.892**	.191
Item26	**.701**	-.145	-.037	-.040	-.055	.032	.543	-.031
Item27	-.129	.023	.106	**.494**	.142	-.177	.263	-.152
Item28	**.515**	.261	-.025	-.105	-.191	-.059	.283	.090
Item29	-.164	.072	**.873**	.095	-.009	-.291	.095	.054
Item30	-.127	**.964**	.030	-.156	.066	.076	.047	.050
Item31	-.073	.013	**.920**	.029	.032	-.156	-.111	.026
Item32	-.014	**.995**	.025	-.038	.106	.049	-.081	-.005

Rotation converged in 11 iterations.

The most significant finding from the above table is once again that the overwhelming majority of factors which emerge do not contain items from both Opposite and Same Sex clusters simultaneously. Once again Factor 1 emerges as being associated with 9 even numbered items which load most heavily on this factor – eight of which load at above the 0.5 level. Once again this factor was named *Same Sex Responsiveness*. Factor 2 consisted of four of the even numbered items not loading for Factor 1. These four items tapped for *Same Sex Responsiveness over the previous Month*. Four odd numbered items loaded at above the 0.5 level for Factor 3 which as a result was named *Opposite Sex Responsiveness over the previous Month*. Five items loaded for Factor 4 (three at above the 0.5 level) which as a result was named *Opposite Sex Responsiveness*. Two items loaded at above the 0.5 level for Factor 5 which as a result was named *Opposite Sex Fantasy*. Two items loaded at above the 0.5 level for Factor 6 which as a result was named *Lifelong Frequency of Opposite Sex Responsiveness (Fantasy/Attraction)*. Two items loaded above the 0.5 level for factor 7 and these were frequent anomalous items 18 and 25 – the factor was tentatively named *Lifelong Frequency of Responsiveness*. Finally two items loaded on Factor 8 which was named *Same Sex Attraction*.

The following table shows how the factors which account for most of the variance intercorrelate.

Table 101. Component Correlation Matrix

Component	1	2	3	4	5	6	7	8
1	1.000	**.516**	.119	-.244	-.260	.197	.125	.173
2	**.516**	1.000	-.099	**-.305**	**-.356**	.043	-.080	.127
3	.119	-.099	1.000	**.405**	**.354**	.177	**.438**	-.243
4	-.244	**-.305**	**.405**	1.000	**.349**	.048	**.386**	-.134
5	-.260	**-.356**	**.354**	**.349**	1.000	.068	.184	-.102
6	.197	.043	.177	.048	.068	1.000	.109	.055
7	.125	-.080	**.438**	**.386**	.184	.109	1.000	-.213
8	.173	.127	-.243	-.134	-.102	.055	**-.213**	1.000

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.

As evident in the table above, which provides the oblique solution factor intercorrelations, Factors 1 and 2 intercorrelate positively at a 0.52 level. This was to be expected as these factors both relate to Same Sex Responsiveness. With regard to Opposite Sex Responsiveness the following factors intercorrelate positively, albeit less strongly: Factors 3 and 4; 3 and 5; 4 and 5. The range here varies between 0.4 and 0.35. Possibly more significant, are the relationships between factors dealing with Same Sex Responsiveness and those dealing with Opposite Sex Responsiveness, with the strongest negative correlation being that between Factors 2 and 5 (-0.36) and Factors 2 and 4 (-0.31). The fact that there are negative correlations at all in this sub-group (Psych 3's) when in the youngest sub-group (Scholars) virtually no strong negative correlations were found between factors could assist with understanding of development of sexual orientations within adolescence.

Psych 1 Students Only

Table 102. Suitability of factor analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.845
Bartlett's Test of Sphericity	Approx. Chi-Square	9455.350
	Df	496
	Sig.	.000

The KMO measure of sampling adequacy is large (0.85), the highest KMO measure obtained amongst the three sample groups, and therefore indicates that a factor analysis of the variables would be appropriate. Bartlett's test of sphericity Chi-Square(496) = 9455.35, $p < 0.0001$ strongly implies that the correlations among the variables are significantly different to zero and it is therefore concluded that the strength of the relationship among variables is strong thus also indicating the appropriateness of proceeding a factor analysis.

Basic descriptive information on all 32 items – as responded to by the Psych 1 Group (425) – upon which the factor analysis was performed is provided in the following table:

Table 103. Descriptive Statistics: Means and Standard Deviations (N=425)

	Means	Std.Devs
Item1	2.732	1.714
Item2	6.221	1.390
Item3	2.960	1.664
Item4	6.313	1.465
Item5	3.765	1.762
Item6	6.668	1.075
Item7	4.334	1.828
Item8	6.795	0.760
Item9	2.584	1.585
Item10	6.412	1.144
Item11	2.092	1.385
Item12	6.398	1.303
Item13	3.308	1.662
Item14	6.734	0.905
Item15	3.960	1.876
Item16	6.833	0.689
Item17	3.871	1.678
Item18	6.659	0.782
Item19	2.122	1.722
Item20	6.574	1.203
Item21	3.946	2.257
Item22	6.908	0.474
Item23	5.379	1.744
Item24	6.960	0.258
Item25	5.075	1.090
Item26	6.885	0.503
Item27	2.188	1.519
Item28	6.798	0.907
Item29	4.066	2.320
Item30	6.922	0.452
Item31	4.715	2.356
Item32	6.965	0.259

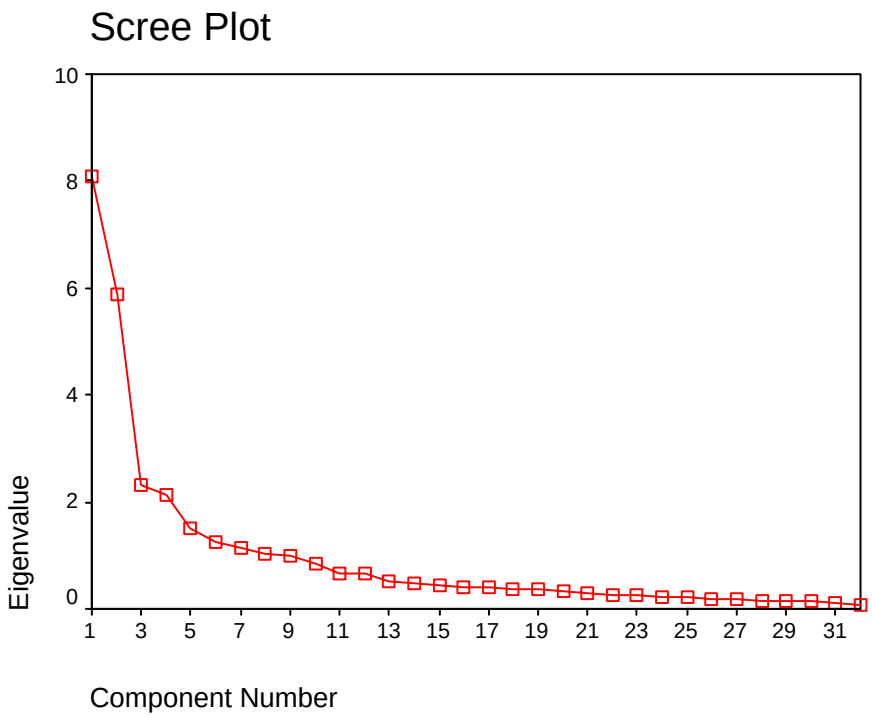
Once again eight factors, this time accounting for 73% of the variation in the data, were identified using the Kaiser criteria which stipulate that only factors with an eigenvalue greater than 1 be considered, as evident in the following table:

Table 104. Eigenvalues

	Eigenvalue	% Total	Cumulative
1	8.098	25.307	25.307
2	5.885	18.391	43.698
3	2.317	7.242	50.940
4	2.121	6.627	57.567
5	1.489	4.654	62.220
6	1.250	3.907	66.127
7	1.144	3.574	69.701
8	1.038	3.244	72.945

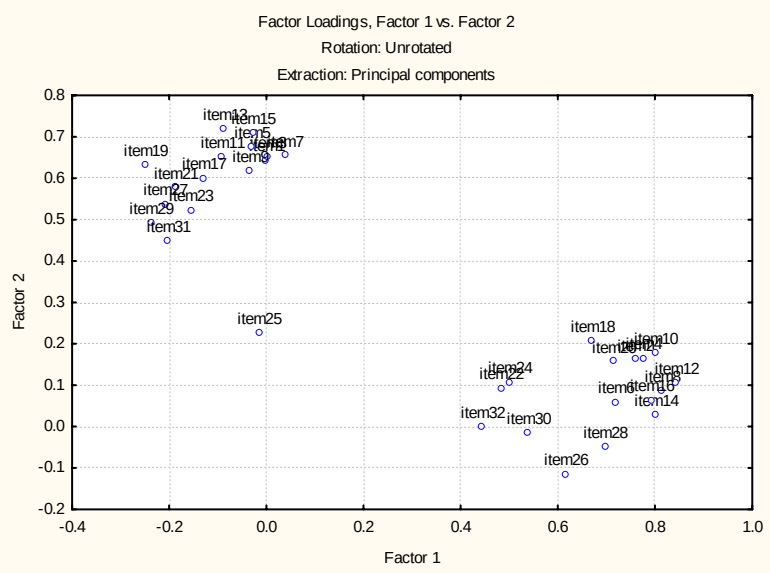
A root curve analysis (stop at the eigenvalue associated with the point of inflection of a scree plot of the eigenvalues from largest to smallest) (Weinrich et al, 1993) suggested that the number of factors be further reduced to 3.

Figure 13. Scree Plot of Eigenvalues: Psych 1's Only



Unrotated loadings show 2 main factors: Same Sex Responsiveness (Factor 1) and Opposite Sex Responsiveness (Factor 2).

Figure 14. Factor Loadings Graph: Psych 1's Only



The table below provides the factor loadings for each item for the unrotated orthogonal solution (principal components). The figures in bold represent the highest factor loading per item.

For the Psych 1 group all the even numbered items load on Factor 1 at above the 0.45 level and once again it makes most sense to name this factor *Same Sex Responsiveness*. The highest loadings are once again evident for items in the Attraction and Fantasy dimensions respectively. The two items to load under the 0.50 level belong to each of the Contact and Emotion dimensions. The item from the Contact dimension (item 22) does load most heavily on Factor 1 as opposed to the other factors which emerged. The item from the Emotion dimension (item 32) loads more heavily on factor 3 – as does item 30, also from the Emotion dimension.

For the Psych 1 group thirteen of the sixteen odd numbered items load at above the 0.52 level for Factor 2. All of these items load more heavily on Factor 2 than any other factor. They include all the odd numbered items from the Fantasy, Attraction and Contact dimensions as well as a single item from the Emotion dimension. As a result this factor was named *Opposite Sex Responsiveness*. It should be noted,

however, that more than half of the items in the Emotion dimension did not load most heavily on either Factor 1 or 2.

Table 105. Orthogonal Factor Loadings (Unrotated)

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Item1	0.001	**0.642**	0.068	0.491	0.050	0.074	-0.155	0.051
Item2	**0.760**	0.160	0.364	-0.041	0.121	-0.042	-0.023	0.009
Item3	0.004	**0.651**	0.065	0.349	0.087	0.196	0.133	0.297
Item4	**0.777**	0.165	0.336	-0.110	0.080	0.021	-0.008	0.101
Item5	-0.029	**0.675**	0.060	0.238	0.104	0.041	0.382	0.332
Item6	**0.720**	0.057	0.249	-0.069	0.025	-0.053	0.211	-0.007
Item7	0.039	**0.653**	-0.074	0.410	0.004	-0.101	0.178	0.088
Item8	**0.816**	0.085	0.176	-0.058	-0.007	-0.104	0.171	-0.088
Item9	-0.033	**0.617**	-0.012	0.466	0.043	-0.048	-0.306	-0.132
Item10	**0.802**	0.176	0.236	-0.038	0.180	-0.117	-0.164	-0.000
Item11	-0.090	**0.649**	0.054	0.112	0.003	0.213	-0.147	-0.133
Item12	**0.845**	0.104	0.230	-0.048	0.085	-0.008	-0.043	0.042
Item13	-0.085	**0.717**	-0.066	-0.012	-0.183	-0.212	0.232	-0.082
Item14	**0.803**	0.028	0.075	-0.070	-0.106	-0.032	0.172	-0.079
Item15	-0.027	**0.707**	-0.166	0.164	-0.163	-0.316	0.090	-0.021
Item16	**0.794**	0.063	0.088	-0.020	0.009	-0.111	0.093	-0.156
Item17	-0.128	**0.600**	-0.019	-0.252	-0.138	-0.014	-0.490	0.038
Item18	**0.672**	0.2065	0.171	-0.118	-0.058	0.165	-0.204	0.028
Item19	-0.248	**0.630**	0.142	-0.216	-0.153	0.063	-0.345	-0.007
Item20	**0.716**	0.156	0.092	-0.134	-0.181	0.147	-0.203	0.036
Item21	-0.186	**0.576**	-0.116	-0.320	-0.368	-0.308	0.101	-0.092
Item22	**0.484**	0.092	-0.205	-0.062	-0.451	0.431	0.218	-0.231
Item23	-0.155	**0.521**	-0.164	-0.504	-0.225	-0.349	0.024	-0.052
Item24	**0.502**	0.106	-0.458	0.014	-0.381	0.444	0.092	-0.082
Item25	-0.015	0.225	-0.214	0.240	0.415	0.001	0.087	**-0.695**
Item26	**0.617**	-0.115	-0.517	0.000	0.262	-0.284	-0.128	0.038
Item27	-0.208	**0.536**	0.050	-0.265	0.391	0.305	0.000	-0.260
Item28	**0.698**	-0.050	-0.473	0.005	0.159	-0.199	-0.078	0.002
Item29	-0.237	0.490	-0.173	**-0.540**	0.383	0.155	0.167	0.061
Item30	0.540	-0.017	**-0.649**	0.042	0.136	-0.067	-0.119	0.145
Item31	-0.201	0.447	-0.123	**-0.563**	0.369	0.164	0.125	0.193
Item32	0.445	-0.003	**-0.670**	0.066	0.008	0.193	-0.092	0.217
Expl.Var	8.098	5.885	2.317	2.121	1.489	1.250	1.144	1.038
Prp.Totl	0.253	0.184	0.072	0.066	0.047	0.039	0.036	0.032

The oblique solution factor loadings for the Psych 1 group are presented in the following table:

Table 106. Oblique Factor Loadings

	Component							
	1	2	3	4	5	6	7	8
Item1	.015	**.723**	.014	-.133	-.148	.258	-.046	.067
Item2	**.921**	.066	-.083	-.075	.020	.031	-.114	-.008
Item3	.040	**.874**	-.013	-.166	.135	-.008	.034	-.148
Item4	**.908**	.073	-.055	-.080	.083	.043	-.055	-.120
Item5	.082	**.895**	-.049	.038	.239	-.251	-.031	-.168
Item6	**.796**	.047	-.099	.037	.024	-.219	.033	-.005
Item7	.000	**.778**	.080	.138	-.081	-.080	-.014	.049
Item8	**.825**	-.002	-.023	.108	-.037	-.177	.064	.068
Item9	-.046	**.518**	.088	-.021	-.248	.402	-.099	.230
Item10	**.877**	.020	.127	-.059	.004	.152	-.198	.027
Item11	.014	.333	-.137	-.010	.099	**.361**	.150	.172
Item12	**.867**	.038	.061	-.089	.012	.034	-.033	-.045
Item13	.026	.372	-.099	**.557**	.027	.014	.079	.077
Item14	**.706**	-.044	.019	.112	-.065	-.170	.201	.027
Item15	-.041	.483	.120	**.519**	-.135	.097	-.039	.050
Item16	**.734**	-.051	.063	.095	-.078	-.118	.071	.149
Item17	-.006	-.034	.088	.269	.076	**.780**	-.064	-.142
Item18	**.663**	-.026	.021	-.090	.024	.300	.139	-.100
Item19	.012	.044	-.179	.235	.101	**.660**	-.006	-.102
Item20	**.616**	-.077	.071	-.012	-.059	.306	.225	-.154
Item21	-.057	-.025	-.091	**.793**	.004	.204	.087	-.056
Item22	.140	-.076	-.109	.080	-.057	-.075	**.858**	.088
Item23	-.006	-.191	.052	**.785**	.177	.263	-.041	-.071
Item24	-.056	.037	.249	-.007	-.031	.011	**.821**	.005
Item25	-.067	-.025	.055	-.061	.126	-.159	.065	**.936**
Item26	.162	-.095	**.854**	.047	.031	-.052	-.180	.111
Item27	.068	.004	-.168	-.104	**.642**	.181	.062	.406
Item28	.241	-.063	**.747**	.064	.003	-.054	-.030	.109
Item29	-.045	-.010	.114	.118	**.866**	.024	-.030	.086
Item30	-.052	.059	**.895**	-.022	.069	.004	.057	-.011
Item31	.002	.011	.134	.070	**.865**	.060	-.080	-.064
Item32	-.212	.145	**.800**	-.146	.100	.030	.306	-.118

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.
a Rotation converged in 7 iterations.

From the above table it can be seen that ten out of sixteen even numbered (Same Sex) items load most strongly for Factor 1 (between levels 0.62 and 0.92) and that this includes all the Fantasy and Attraction items as well as the first half (Lifelong items) of the Contact dimension. This is identical to what emerged in the oblique analysis of the entire adolescent sample. None of the Emotion dimension items load for this factor. It would probably make most sense to name this factor *Same Sex Responsiveness*.

Other factors which included only Same Sex items were Factors 3 and 7. All four Emotion items relating to the Same Sex separated into Factor 3 at above the 0.75 level and this was consequently named *Same Sex Emotion*. The two items that loaded (at above the 0.8 level) on Factor 7 resulted in this factor being named *Same Sex Contact over the previous Month*.

Six items load most heavily on Factor 2 and five of these at above the 0.5 level. All these items come from the Fantasy, and to a lesser extent, the Attraction groupings of items, and consequently this factor was named *Opposite Sex (Fantasy/Attraction) Responsiveness*.

The four (all odd numbered i.e. Opposite Sex) items that loaded for Factor 4 were the two Attraction items dealing with the previous Month (at approximately a 0.5 level) and the two Contact items dealing with the Previous Month (at above the 0.78 level). This factor was named *Opposite Sex Responsiveness (Attraction/Contact) over the previous Month*. Another factor to include only Opposite Sex items was Factor 5 where three items, all from the Emotion dimension, loaded at a level above 0.6 and this was consequently called *Opposite Sex Emotion*. The two items that loaded (at above the 0.7 level) on Factor 6 resulted in this factor being named *Opposite Sex Contact over the Lifespan*. The final factor to emerge with only odd numbered items (in fact only a single item) consisted of the remaining item from the same grouping of items as the three items in Factor 5. This item loaded at a level of 0.94 and Factor 8 was consequently named *Frequency of Opposite Sex Emotion over the Lifespan*. This item was the frequently anomalous item 25. The fact that two factors (factors 5 and 8) emerged with such strong item loadings within the Emotion cluster of items could indicate the complexity of Emotion as a construct.

Possibly more significant in terms of defining sexual orientation, however, is that no oblique factors emerged in the Psych 1 group that contained items from both Same and Opposite Sex groupings and also that Emotion dimension items loaded completely separately (Factors 3, 5 and 8) from the Fantasy, Attraction and Contact item factors (Factors 1, 2, 4, 6 and 7).

The following table shows how the factors which account for most of the variance intercorrelate.

Table 107. Component Correlation Matrix

Component	1	2	3	4	5	6	7	8
1	1.000	.051	**.416**	-.029	-.149	-.024	**.334**	.015
2	.051	1.000	-.082	.313	.189	**.387**	.077	**.324**
3	**.416**	-.082	1.000	-.039	-.207	-.145	**.309**	.036
4	-.029	**.313**	-.039	1.000	.272	.153	.041	.123
5	-.149	.189	-.207	.272	1.000	.239	-.026	.006
6	-.024	**.387**	-.145	.153	.239	1.000	.050	.242
7	**.334**	.077	**.309**	.041	-.026	.050	1.000	-.057
8	.015	**.324**	.036	.123	.006	.242	-.057	1.000

As expected positive correlations were found to exist between the three factors comprised of items measuring Same Sex responsiveness. The strongest correlation was 0.42 between Factors 1 and 3. Factors 1 and 7 and Factors 3 and 7 correlated at approximately the 0.3 level. Positive correlations were also found to exist between the factors comprising Opposite Sex items. The strongest of these were at the 0.39 level – Factors 2 and 6. Factors 2 and 4 and Factors 2 and 8 also correlated positively at approximately the 0.3 level. The rest of the correlations between these factors were weaker but still positive. Surprisingly, the weakest correlation was between Factors 5 and 8 (0.006) – both entirely made up of Emotion items.

The correlations between the Same Sex factors and the Opposite Sex factors were typically very low, with the highest correlation being between Factors 3 and 5 at -0.2. Factor 1 correlated negatively with three of the five Opposite Sex factors. Factor 3 correlated negatively with four of the five Opposite Sex factors. Factor 7 correlated negatively with two of the Opposite Sex factors.

Reliability of the Four Oblique Factors

The internal consistency reliability of the four main factors which emerged in the oblique rotation factor analysis of the entire adolescent sample was obtained by calculating *alpha* coefficients for each of these factors. The tables below provide the descriptive statistics for each of these factors along with their Cronbach *alpha* coefficients.

Factor 1- Same Sex Responsiveness

Table 108. Factor 1 Descriptive Statistics

	Item	Mean	Std Dev	Cases
1.	2	6.3150	1.2882	673.0
2.	4	6.3878	1.3961	673.0
3.	6	6.6969	1.0294	673.0
4.	8	6.8187	.7236	673.0
5.	10	6.4829	1.0966	673.0
6.	12	6.4710	1.2510	673.0
7.	14	6.7444	.9047	673.0
8.	16	6.8395	.6843	673.0
9	18	6.6909	.7377	673.0
10.	20	6.6270	1.1478	673.0

Item Means

Mean	Minimum	Maximum	Range	Max/Min	Variance
6.6074	6.3150	6.8395	.5245	1.0831	.0334

Item Variances

Mean	Minimum	Maximum	Range	Max/Min	Variance
1.1108	.4683	1.9491	1.4808	4.1624	.2698

Table 109. Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Item 2	59.7593	52.2098	.7941	.7438	.9214
Item 4	59.6865	50.5816	.8118	.7544	.9213
Item 6	59.3774	56.4913	.7174	.6643	.9249
Item 8	59.2556	59.3513	.7872	.7942	.9244
Item 10	59.5914	54.9920	.7660	.7444	.9224
Item 12	59.6033	51.5105	.8674	.8067	.9166
Item 14	59.3299	57.6083	.7446	.6607	.9241
Item 16	59.2348	60.4597	.7259	.7132	.9270
Item 18	59.3834	61.0850	.6090	.5190	.9304
Item 20	59.4473	56.0363	.6575	.5833	.9284

Reliability Coefficients 10 items

Alpha = .9313

Standardized item alpha = .9374

Factor 2 – Opposite Sex Responsiveness

Table 110. Factor 2 Descriptive Statistics

	Item	Mean	Std Dev	Cases
1.	1	2.9516	1.6797	806.0
2.	3	3.1588	1.7734	806.0
3.	5	3.8610	1.8376	806.0
4.	7	4.5397	1.7778	806.0
5.	9	2.8400	1.6344	806.0
6.	15	4.1067	1.8167	806.0

Item Means

Mean	Minimum	Maximum	Range	Max/Min	Variance
3.5763	2.8400	4.5397	1.6998	1.5985	.4795

Item Variances

Mean	Minimum	Maximum	Range	Max/Min	Variance
3.0792	2.6712	3.3769	.7057	1.2642	.0763

Table 111. Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Item 1	18.5062	45.1124	.6678	.5647	.8162
Item 3	18.2990	45.5763	.5964	.4931	.8295
Item 5	17.5968	44.4372	.6199	.5248	.8253
Item 7	16.9181	43.8169	.6808	.5227	.8131
Item 9	18.6179	46.7507	.6076	.5093	.8274
Item 15	17.3511	44.7871	.6133	.4529	.8265

Reliability Coefficients 6 items

Alpha = .8481

Standardized item alpha = .8487

Factor 3 – Previous Month's Same Sex Responsiveness

Table 112. Factor 3 Descriptive Statistics

	Item	Mean	Std Dev	Cases
1.	22	6.9032	.5648	744
2.	24	6.9664	.2382	744
3.	30	6.9153	.5158	744
4.	32	6.9462	.4550	744

Item Means

Mean	Minimum	Maximum	Range	Max/Min	Variance
6.9328	6.9032	6.9664	.0632	1.0092	.0008

Item Variances

Mean	Minimum	Maximum	Range	Max/Min	Variance
.2122	.0567	.3190	.2623	5.6222	.0128

Table 113. Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Item 22	20.8280	1.0659	.5161	.4210	.7544
Item 24	20.7648	1.5368	.6660	.4826	.7268
Item 30	20.8159	1.0791	.5988	.4732	.6898
Item 32	20.7849	1.1408	.6574	.4974	.6561

Reliability Coefficients 4 items

Alpha = .7637

Standardized item alpha = .8059

Factor 4 – Previous Month's Opposite Sex Responsiveness

Table 114. Descriptive Statistics

	Item	Mean	Std Dev	Cases
1.	13	3.3195	1.6969	817
2.	21	3.8813	2.2648	817
3.	23	5.4100	1.7019	817

Item Means

Mean	Minimum	Maximum	Range	Max/Min	Variance
4.2036	3.3195	5.4100	2.0906	1.6298	1.1705

Item Variances

Mean	Minimum	Maximum	Range	Max/Min	Variance
3.6351	2.8794	5.1293	2.2498	1.7813	1.6745

Table 115. Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Item 13	9.2913	12.8881	.4880	.2581	.7545
Item 21	8.7295	7.8348	.6901	.4882	.5255
Item 23	7.2007	11.8959	.5895	.3997	.6535

Reliability Coefficients 3 items

Alpha = .7466

Standardized item alpha = .7482

From the above tables it is evident that the first two oblique factors have acceptable Cronbach *alpha* coefficients of 0.93 and 0.85, comfortably meeting the Crano and Brewer (1973) requirement for Likert type item scales. Factors 3 and 4, despite consisting of relatively few items, obtain surprisingly respectable reliability coefficients of 0.76 and 0.75, which near the standard (Crano & Brewer, 1973).

Demographic Effects on the Four Oblique Factors

Statistical tests were performed to determine whether there were significant differences with regard to the four factors which emerged in the oblique factor analysis in terms of responses made by particular sample sub-groups (Scholars, Psych 3's and Psych 1's), genders, sexual orientation self-labels (the seven Kinsey categories) and ages. The findings are presented in the remainder of this chapter.

Group Comparison

Basic descriptive statistics are provided for each of the sample sub-groups per oblique factor in the table below:

Table 116. Descriptive Statistics

	Group	N	Mean	Std. Deviation
FACTOR1	Scholars	150	5.4022	.53903
	Psych 3	82	5.2451	.75832
	Psych 1	441	5.2469	.72109
	Total	**673**	**5.2813**	**.69166**
FACTOR2	Scholars	183	2.7954	.93102
	Psych 3	96	2.6508	.80679
	Psych 1	527	2.4122	.94474
	Total	**806**	**2.5276**	**.93958**
FACTOR3	Scholars	163	5.7940	.34401
	Psych 3	92	5.7765	.46346
	Psych 1	489	5.8106	.21745
	Total	**744**	**5.8028**	**.28863**
FACTOR4	Scholars	184	3.3256	1.17739
	Psych 3	98	3.0655	1.19856
	Psych 1	535	3.2472	1.23967
	Total	**817**	**3.2431**	**1.22175**

From the above table it is evident that the variability in responses, as evidenced by the standard deviations, was generally smallest for Factor 3 (*Previous Month's Same Sex Responsiveness*), followed by Factor 1 (*Same Sex Responsiveness*) and Factor 2 (*Opposite Sex Responsiveness*) and largest for Factor 4 (*Previous Month's*

Opposite Sex Responsiveness) in this predominantly heterosexual sample. The Psych 3 group had the highest standard deviations for the Same Sex factors (1 and 3) and the Psych 1 group had the highest standard deviations for the Opposite Sex factors (2 and 4).

It is also noteworthy that Factor 4 received the highest number of total responses (n = 817), closely followed by Factor 2 (n = 806) and then Factor 3 (n = 744) and finally, with by far the lowest total number of responses, Factor 1 (n = 673). This can be explained by the effects of a likely increasing social undesirability of true responses between Opposite and Same Sex items and also between Previous Month and Lifelong items.

Homogeneity of variances (or lack thereof) had to be determined because ANOVAs require homogeneity of variances.

Table 117. Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
FACTOR1	6.676	2	670	**.001**
FACTOR2	2.476	2	803	.085
FACTOR3	2.647	2	741	.072
FACTOR4	.645	2	814	.525

From the above table it is evident that Factor 1 (*Same Sex Responsiveness*) lacked homogeneity of variances. The remaining three factors met this requirement, however, and an ANOVA was therefore performed.

Oneway Analysis of Variance using Oblique Factors was used to determine whether there was a reliable difference between any pair of means in the three adolescent sample sub-groups.

Table 118. Oneway ANOVA using Oblique Factors

		Sum of Squares	Df	Mean Square	F	Sig.
FACTOR1	Between Groups	2.824	2	1.412	2.969	.052
	Within Groups	318.660	670	.476		
	Total	321.484	672			
FACTOR2	Between Groups	21.597	2	10.798	12.584	**.000**
	Within Groups	689.066	803	.858		
	Total	710.663	805			
FACTOR3	Between Groups	.106	2	.053	.635	.530
	Within Groups	61.793	741	.083		
	Total	61.899	743			
FACTOR4	Between Groups	4.352	2	2.176	1.459	.233
	Within Groups	1213.668	814	1.491		
	Total	1218.019	816			

The results of the ANOVA suggested that only responses to Factor 2 (*Opposite Sex Responsiveness*) were significantly different between the three adolescent sub-groups.

Multiple Comparisons (Scheffé Tests) were performed to ascertain exactly which of the groups were different from each other with regard to Factor 2.

Table 119. Post Hoc Tests

Dependent Variable	(I) GROUP	(J) GROUP	Mean Difference (I-J)	Std. Error	Sig.
FACTOR2	Scholars	Psych 3	.1445	.11674	.465
		Psych 1	**.3832(*)**	.07948	.000
	Psych 3	Scholars	-.1445	.11674	.465
		Psych 1	.2386	.10280	.068
	Psych 1	**Scholars**	**-.3832(*)**	.07948	**.000**
		Psych 3	-.2386	.10280	.068

* The mean difference is significant at the .05 level.

From these tests it was determined that it was the Scholar and Psych 1 groups which were significantly different from each other with regard to Factor 2 – Opposite Sex Responsiveness. Means for groups in homogeneous subsets are displayed with respect to Factor 2 in the table below:

Table 120. Homogeneous Subsets – Factor 2

	GROUP	N	Subset for alpha = .05	
			1	2
Scheffe	Psych 1	527	2.4122	
	Psych 3	96	2.6508	2.6508
	Scholars	183		2.7954
	Sig.		.061	.359

a Uses Harmonic Mean Sample Size = 168.741.
b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From the above table it is evident that the Scholar group and the Psych 1 group are significantly different from each other with regard to Factor 2 – they do not have means for groups in homogeneous subsets displayed in the same columns above. In this sample the Psych 1's tended to report higher levels of sexual responsiveness than the Scholars did on items identified as having a significant difference between groups. The mystery, however, is that the older Psych 3's (presumably more experienced than the Psych 1's) and the Scholars were not found to be significantly different in this regard.

The Kruskal-Wallis Test was performed because of the lack of homogeneity of variances possibly affecting the appropriateness of the ANOVA with regard to Factor 1 as discussed above.

Table 121. Non-Parametric Tests

	FACTOR1	FACTOR2	FACTOR3	FACTOR4
Chi-Square	5.946	**25.456**	.290	2.803
Df	2	**2**	2	2
Asymp. Sig.	.051	**.000**	.865	.246

The results obtained concur with those obtained in the ANOVA. Once again only

Factor 2 was found to have a significant sub-group difference.

Gender Comparison

Basic descriptive statistics are provided for each gender per oblique factor in the table below:

Table 122. Descriptive Statistics

		N	Mean	Std. Deviation
FACTOR1	Male	236	5.4002	.65721
	Female	437	5.2171	.70197
	Total	**673**	**5.2813**	**.69166**
FACTOR2	Male	297	2.1436	.90850
	Female	509	2.7517	.88401
	Total	**806**	**2.5276**	**.93958**
FACTOR3	Male	270	5.7900	.33091
	Female	474	5.8100	.26162
	Total	**744**	**5.8028**	**.28863**
FACTOR4	Male	301	3.1776	1.14229
	Female	516	3.2812	1.26532
	Total	**817**	**3.2431**	**1.22175**

Male responses showed greater variability, as evidenced by the standard deviations obtained, for Factors 2 (*Opposite Sex Responsiveness)* and 3 (*Previous Month's Same Sex Responsiveness*) whereas Females showed greater variability for Factors 1 (*Same Sex Responsiveness*) and 4 (*Previous Month's Opposite Sex Responsiveness*).

Homogeneity of variances (or lack thereof) had to be determined because ANOVAs require homogeneity of variances.

Table 123. Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
FACTOR1	11.685	1	671	**.001**
FACTOR2	.019	1	804	.891
FACTOR3	3.314	1	742	.069
FACTOR4	11.412	1	815	**.001**

From the above table it is evident that Factor 1 (*Same Sex Responsiveness*) and Factor 4 (*Previous Month's Opposite Sex Responsiveness*) lacked homogeneity of variances. The remaining two factors met this requirement, however, and an ANOVA was therefore performed.

Oneway Analysis of Variance using Oblique Factors procedure was used to determine whether there was a reliable difference between any pair of means in the two gender groups.

Table 124. Oneway ANOVA using Oblique Factors

		Sum of Squares	Df	Mean Square	F	Sig.
FACTOR1	Between Groups	5.139	1	5.139	10.900	**.001**
	Within Groups	316.346	671	.471		
	Total	321.484	672			
FACTOR 2	Between Groups	69.367	1	69.367	86.966	**.000**
	Within Groups	641.296	804	.798		
	Total	710.663	805			
FACTOR3	Between Groups	.069	1	.069	.826	.364
	Within Groups	61.830	742	.083		
	Total	61.899	743			
FACTOR4	Between Groups	2.042	1	2.042	1.369	.242
	Within Groups	1215.977	815	1.492		
	Total	1218.019	816			

The results of the ANOVA suggested that responses to Factors 1 (*Same Sex Responsiveness*) and 2 (*Opposite Sex Responsiveness*) were significantly different between the genders.

The Mann-Whitney Test, amongst others, was performed because of the lack of homogeneity of variances possibly affecting the appropriateness of the ANOVA with regard to Factors 1 and 2 as discussed above.

Table 125. Non-parametric Tests

	FACTOR1	**FACTOR2**	FACTOR3	FACTOR4
Mann-Whitney U	38000.500	46587.500	63944.000	74180.500
Z	-6.341	-9.095	-.038	-1.069
Asymp. Sig. (2-tailed)	**.000**	**.000**	.970	.285

a Grouping Variable: GENDER

The results confirm the findings of the parametric ANOVA performed.

Identity Comparison

Identity has 7 categories but only categories 1, 6 and 7 had sufficient sample sizes for non-parametric comparison tests. These categories comprise the following three descriptions based on the Kinsey Scale: 1 = completely homosexual; 6 = mainly heterosexual, occasionally homosexual; and 7 = completely heterosexual.

Basic descriptive statistics are provided for each of the three Kinsey categories (with sufficient sample sizes) per oblique factor in the table below:

Table 126. Descriptive Statistics

	Identity	N	Mean	Std. Deviation
FACTOR1	Completely homosexual	8	3.8357	1.89858
	Mainly heterosexual	35	3.9309	.85989
	Completely heterosexual	616	5.4105	.44937
	Total	659	5.3128	.63430
FACTOR2	Completely homosexual	8	4.1531	.73940
	Mainly heterosexual	37	2.0963	.83372
	Completely heterosexual	745	2.5304	.92832
	Total	790	2.5265	.94059
FACTOR3	Completely homosexual	8	5.2301	1.28408
	Mainly heterosexual	36	5.7901	.18235
	Completely heterosexual	684	5.8239	.18709
	Total	728	5.8157	.23287
FACTOR4	Completely homosexual	8	3.8325	1.69204
	Mainly heterosexual	37	3.2494	1.24522
	Completely heterosexual	755	3.2359	1.20870
	Total	800	3.2425	1.21538

From the above table it is evident that the group self-labelling as “Completely Homosexual” had the greatest variability in responses across three of the factors – the exception being Factor 2 (*Opposite Sex Responsiveness*) where it had the least variability.

It is also noteworthy that once again Factor 4 received the highest number of total responses (n = 800), closely followed by Factor 2 (n = 790) and then Factor 3 (n = 728) and finally, with the by far the lowest total number of responses, Factor 1 (n = 659). This can once again be explained in terms of the effects of a likely increasing social undesirability of true responses between Opposite and Same Sex items and also between Previous Month and Lifelong items.

Homogeneity of variances (or lack thereof) had to be determined because ANOVAs require homogeneity of variances.

Table 127. Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
FACTOR1	79.338	2	656	**.000**
FACTOR2	.494	2	787	.610
FACTOR3	62.023	2	725	**.000**
FACTOR4	2.153	2	797	.117

From the above table it is evident that Factor 1 (*Same Sex Responsiveness*) and Factor 3 (*Previous Month's Same Sex Responsiveness*) lacked homogeneity of variances. The remaining two factors met this requirement, however, and an ANOVA was therefore performed.

Oneway Analysis of Variance of Oblique Factors procedure was used to determine whether there was a reliable difference between any pair of means in the three sexual orientation self-label groups identified above.

Table 128. Oneway ANOVA using Oblique Factors

		Sum of Squares	Df	Mean Square	F	Sig.
FACTOR1	Between Groups	90.172	2	45.086	169.432	**.000**
	Within Groups	174.563	656	.266		
	Total	264.735	658			
FACTOR2	Between Groups	28.024	2	14.012	16.459	**.000**
	Within Groups	670.016	787	.851		
	Total	698.040	789			
FACTOR3	Between Groups	2.813	2	1.406	27.849	**.000**
	Within Groups	36.612	725	.050		
	Total	39.424	727			
FACTOR4	Between Groups	2.819	2	1.410	.954	.386
	Within Groups	1177.421	797	1.477		
	Total	1180.240	799			

The results of the ANOVA suggested that responses to Factors 1 (*Same Sex Responsiveness*), 2 (*Opposite Sex Responsiveness*) and 3 (*Previous Month's Same Sex Responsiveness*) were significantly different between the three specified sexual orientation category groups. Multiple Comparisons (Scheffé Tests) were performed to ascertain exactly which of the three sexual orientation self-label groups were different from each other with regard to Factors 1, 2 and 3.

Table 129. Post Hoc Tests

Dependent Variable	(I) IDENT	(J) IDENT	Mean Difference (I-J)	Std. Error	Sig.
FACTOR1	**Completely homosexual**	Mainly heterosexual	-.0952	.20215	.895
		Completely heterosexual	-1.5748(*)	.18356	**.000**
	Mainly heterosexual	Completely homosexual	.0952	.20215	.895
		Completely heterosexual	-1.4796(*)	.08964	**.000**
	Completely heterosexual	**Completely homosexual**	1.5748(*)	.18356	**.000**
		Mainly heterosexual	1.4796(*)	.08964	**.000**
FACTOR2	**Completely homosexual**	**Mainly heterosexual**	2.0568(*)	.35976	**.000**
		Completely heterosexual	1.6227(*)	.32797	**.000**
	Mainly heterosexual	**Completely homosexual**	-2.0568(*)	.35976	**.000**
		Completely heterosexual	-.4340(*)	.15541	.021
	Completely heterosexual	**Completely homosexual**	-1.6227(*)	.32797	**.000**
		Mainly heterosexual	.4340(*)	.15541	.021
FACTOR3	**Completely homosexual**	**Mainly heterosexual**	-.5600(*)	.08784	**.000**
		Completely heterosexual	-.5938(*)	.07991	**.000**
	Mainly heterosexual	**Completely homosexual**	.5600(*)	.08784	**.000**
		Completely heterosexual	-.0338	.03843	.680
	Completely heterosexual	**Completely homosexual**	.5938(*)	.07991	**.000**
		Mainly heterosexual	.0338	.03843	.680

* The mean difference is significant at the .05 level.

From the above table it is evident that with regard to Factor 1 (*Same Sex Responsiveness*) the "Completely Homosexual" and "Completely Heterosexual" groups' responses were significantly different to each other. The "Mainly Heterosexual, Occasionally Homosexual" and "Completely Heterosexual" groups' responses were also significantly different to each other.

With regard to both Factors 2 (*Opposite Sex Responsiveness*) and 3 (*Previous Month's Same Sex Responsiveness*) the "Completely Homosexual" groups' responses were significantly different from those of both the "Mainly Heterosexual, Occasionally Homosexual" and "Completely Heterosexual" groups.

Means for groups in homogeneous subsets are displayed with respect to Factors 1, 2 and 3 in the tables below:

Table 130. Homogeneous subsets – Factor 1

	IDENTITY	N	Subset for alpha = .05	
			1	2
Scheffe	Completely homosexual	8	3.8357	
	Mainly heterosexual	35	3.9309	
	Completely heterosexual	616		5.4105
	Sig.		.848	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 19.331.
b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From the above table it is evident that the responses of the "Completely Homosexual" and "Mainly Heterosexual, Occasionally Homosexual" groups were significantly different from those of the "Completely Heterosexual" group with regard to Factor 1 – *Same Sex Responsiveness.*

Table 131. Homogeneous subsets – Factor 2

	IDENTITY	N	Subset for alpha = .05	
			1	2
Scheffe	Completely homosexual	37	2.0963	
	Mainly heterosexual	745	2.5304	
	Completely heterosexual	8		4.1531
	Sig.		.339	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 19.561.
b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From the above table it is evident that the responses of the "Completely Homosexual" group were significantly different from those of the "Mainly Heterosexual, Occasionally Homosexual" and "Completely Heterosexual" groups with regard to Factor 2 – *Opposite Sex Responsiveness.*

Table 132. Homogeneous subsets – Factor 3

	IDENT	N	Subset for alpha = .05	
			1	2
Scheffe	Completely homosexual	8	5.2301	
	Mainly heterosexual	36		5.7901
	Completely heterosexual	684		5.8239
	Sig.		1.000	.896

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 19.450.
b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From the above table it is evident that the responses of the "Completely Homosexual" group were significantly different from those of the "Mainly Heterosexual, Occasionally Homosexual" and "Completely Heterosexual" groups with regard to Factor 3 – *Previous Month's Same Sex Responsiveness.*

The Kruskal-Wallis Test was performed because of the lack of homogeneity of variances possibly affecting the appropriateness of the ANOVA with regard to Factors 1 and 3 as discussed above.

Table 133. Non-parametric Tests

	FACTOR1	**FACTOR2**	**FACTOR3**	FACTOR4
Chi-Square	**108.443**	**23.092**	**25.050**	1.558
Df	**2**	**2**	**2**	2
Asymp. Sig.	**.000**	**.000**	**.000**	.459

Grouping Variable: IDENT

The findings confirm those of the ANOVA in that the responses to the first three factors were found to be significantly different between the three specified sexual orientation category groups.

Age Comparison

Basic descriptive statistics are provided for eight different age groups per oblique factor in the table below:

Table 134. Descriptive Statistics

	Age	N	Mean	Std. Deviation
FACTOR1	16	34	5.5444	.16423
	17	99	5.3444	.48707
	18	182	5.2392	.77130
	19	149	5.3091	.66865
	20	110	5.2302	.76641
	21	63	5.3226	.57938
	22	16	4.6280	1.27733
	23	17	5.3524	.46954
	Total	670	5.2804	.69303
FACTOR2	16	36	3.0409	.73291
	17	121	2.6157	.90840
	18	220	2.5749	.98248
	19	184	2.4372	.98398
	20	124	2.4152	.87625
	21	77	2.4813	.79053
	22	19	2.1707	.90770
	23	21	2.4126	1.08699
	Total	802	2.5229	.93725

FACTOR3	16	34	5.8523	.02860
	17	108	5.8186	.18612
	18	209	5.8027	.30316
	19	167	5.8164	.19154
	20	119	5.7634	.45825
	21	70	5.8171	.23202
	22	17	5.6968	.46583
	23	17	5.7834	.16717
	Total	741	5.8025	.28920
FACTOR4	16	37	3.4786	1.15407
	17	122	3.3885	1.16621
	18	225	3.2758	1.20698
	19	185	3.2889	1.23839
	20	125	3.1652	1.24496
	21	78	3.1064	1.31495
	22	19	2.7536	1.04661
	23	22	2.6096	1.07392
	Total	813	3.2414	1.22129

Homogeneity of variances (or lack thereof) had to be determined because ANOVAs require homogeneity of variances.

Table 135. Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
FACTOR1	6.408	7	662	**.000**
FACTOR2	2.305	7	794	.025
FACTOR3	3.516	7	733	**.001**
FACTOR4	1.016	7	805	.418

From the above table it is evident that once again Factor 1 (*Same Sex Responsiveness*) and Factor 3 (*Previous Month's Same Sex Responsiveness*) lacked homogeneity of variances. The remaining two factors met this requirement, however, and an ANOVA was therefore performed.

Oneway Analysis of Variance of Oblique Factors was used to determine whether there was a significant difference between any pair of means in the eight identified age groups.

Table 136. Oneway ANOVA using Oblique Factors

		Sum of Squares	df	Mean Square	F	Sig.
FACTOR1	Between Groups	10.493	7	1.499	3.193	**.002**
	Within Groups	310.824	662	.470		
	Total	321.317	669			
FACTOR2	Between Groups	16.833	7	2.405	2.780	**.007**
	Within Groups	686.801	794	.865		
	Total	703.634	801			
FACTOR3	Between Groups	.538	7	.077	.918	.491
	Within Groups	61.352	733	.084		
	Total	61.890	740			
FACTOR4	Between Groups	20.855	7	2.979	2.015	.051
	Within Groups	1190.292	805	1.479		
	Total	1211.147	812			

The results of the ANOVA suggested that responses to Factors 1 (*Same Sex Responsiveness*) and 2 (*Opposite Sex Responsiveness*) were significantly different between the eight age groups.

Multiple Comparisons (Scheffé Tests) were performed to ascertain exactly which of the age groups were different from each other with regard to Factors 1 and 2:

Table 137. Post Hoc Tests – Factor 1

Dependent Variable	(I) AGE2	(J) AGE2	Mean Difference (I-J)	Std. Error	Sig.
FACTOR1	**16**	17	.1999	.13621	.951
		18	.3051	.12802	.578
		19	.2353	.13023	.859
		20	.3142	.13445	.604
		21	.2218	.14582	.940
		22	.9163(*)	.20774	**.007**
		23	.1920	.20354	.996
	17	16	-.1999	.13621	.951
		18	.1052	.08557	.982
		19	.0354	.08885	1.000
		20	.1143	.09493	.984
		21	.0218	.11043	1.000
		22	.7164(*)	.18463	**.037**
		23	-.0079	.17989	1.000
	18	16	-.3051	.12802	.578
		17	-.1052	.08557	.982
		19	-.0698	.07570	.997
		20	.0091	.08275	1.000
		21	-.0834	.10016	.998
		22	.6112	.17868	.113
		23	-.1132	.17378	1.000
	19	16	-.2353	.13023	.859
		17	-.0354	.08885	1.000
		18	.0698	.07570	.997
		20	.0789	.08614	.997
		21	-.0136	.10298	1.000
		22	.6810(*)	.18027	**.048**
		23	-.0433	.17541	1.000
	20	16	-.3142	.13445	.604
		17	-.1143	.09493	.984
		18	-.0091	.08275	1.000
		19	-.0789	.08614	.997
		21	-.0924	.10826	.998
		22	.6021	.18334	.150
		23	-.1222	.17857	1.000
	21	16	-.2218	.14582	.940

		17	-.0218	.11043	1.000
		18	.0834	.10016	.998
		19	.0136	.10298	1.000
		20	.0924	.10826	.998
		22	.6946	.19183	.071
		23	-.0298	.18727	1.000
	22	**16**	-.9163(*)	.20774	**.007**
		17	-.7164(*)	.18463	**.037**
		18	-.6112	.17868	.113
		19	-.6810(*)	.18027	**.048**
		20	-.6021	.18334	.150
		21	-.6946	.19183	.071
		23	-.7243	.23867	.240
	23	16	-.1920	.20354	.996
		17	.0079	.17989	1.000
		18	.1132	.17378	1.000
		19	.0433	.17541	1.000
		20	.1222	.17857	1.000
		21	.0298	.18727	1.000
		22	.7243	.23867	.240

The only significant differences in Factor 1 – *Same Sex Responsiveness* – responses were found between those of the 22 year olds and those of the 16, 17 and 19 year olds.

Table 138. Post Hoc Tests – Factor 2

Dependent Variable	(I) AGE2	(J) AGE2	Mean Difference (I-J)	Std. Error	Sig.
FACTOR2	16	17	.4251	.17657	.564
		18	.4660	.16721	.355
		19	.6037	.16949	.082
		20	.6257	.17608	.083
		21	.5596	.18778	.263
		22	.8702	.26373	.145
		23	.6283	.25538	.534
	17	16	-.4251	.17657	.564

		18	.0408	.10526	1.000
		19	.1785	.10886	.912
		20	.2006	.11885	.898
		21	.1345	.13558	.995
		22	.4450	.22951	.807
		23	.2032	.21986	.997
	18	16	-.4660	.16721	.355
		17	-.0408	.10526	1.000
		19	.1377	.09291	.948
		20	.1597	.10444	.938
		21	.0936	.12315	.999
		22	.4042	.22239	.855
		23	.1623	.21242	.999
	19	16	-.6037	.16949	.082
		17	-.1785	.10886	.912
		18	-.1377	.09291	.948
		20	.0220	.10806	1.000
		21	-.0441	.12623	1.000
		22	.2665	.22411	.985
		23	.0246	.21422	1.000
	20	16	-.6257	.17608	.083
		17	-.2006	.11885	.898
		18	-.1597	.10444	.938
		19	-.0220	.10806	1.000
		21	-.0661	.13494	1.000
		22	.2445	.22913	.992
		23	.0026	.21947	1.000
	21	16	-.5596	.18778	.263
		17	-.1345	.13558	.995
		18	-.0936	.12315	.999
		19	.0441	.12623	1.000
		20	.0661	.13494	1.000
		22	.3105	.23824	.974
		23	.0687	.22896	1.000
	22	16	-.8702	.26373	.145
		17	-.4450	.22951	.807
		18	-.4042	.22239	.855
		19	-.2665	.22411	.985
		20	-.2445	.22913	.992
		21	-.3105	.23824	.974
		23	-.2418	.29448	.999

	23	16	-.6283	.25538	.534
		17	-.2032	.21986	.997
		18	-.1623	.21242	.999
		19	-.0246	.21422	1.000
		20	-.0026	.21947	1.000
		21	-.0687	.22896	1.000
		22	.2418	.29448	.999

* The mean difference is significant at the .05 level.

Although the ANOVA did suggest that there were significant differences between age groups with regard to Factor 2 – *Opposite Sex Responses* – the post hoc tests failed to identify specifically which age groups were concerned.

The Kruskal-Wallis Test was performed because of the lack of homogeneity of variances possibly affecting the appropriateness of the ANOVA with regard to Factors 1 and 3 as discussed above.

Table 139. Non-parametric Tests

	FACTOR1	FACTOR2	FACTOR3	FACTOR4
Chi-Square	6.573	7.423	3.885	12.976
Df	6	6	6	6
Asymp. Sig.	.362	.283	.692	.043

Grouping Variable: AGE2

The non-parametric test did not confirm the ANOVA findings and in contrast suggested that Factor 4 (*Previous Month's Opposite Sex Responsiveness*) was significantly different with regard to the responses made by different ages and that only at the $p < 0.05$ level. This led to the somewhat unexpected conclusion that there was no age effect between the factors.

CHAPTER 9

RESULTS: QUESTIONNAIRE 2

Exploration of Item Discrimination

In the tables below the frequencies of each response under each item is provided for the sample as a whole as well as for each of the constituent groups which made up the sample. Chi-squares were also calculated and are provided in the tables below each frequency table is an indication of whether any differences in the distributions of responses were significant between these groups.

Table 140. Frequency Table and Chi-Square Test by Groups for Item a

(a) I would find dreaming about having sex with a good-looking person of the opposite sex to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	2	2	0	5	17	50	22	98
Row %	2.04%	2.04%	0.00%	5.10%	17.35%	51.02%	22.45%	
Psych 1	15	6	12	44	69	220	172	538
Row %	2.79%	1.12%	2.23%	8.18%	12.83%	40.89%	31.97%	
Totals	17	8	12	49	86	270	194	636

	Chi-square	**df**	**p**
Pearson Chi-square	9.662355	df=6	p=.13962

No significant group effect on the responses to item a.

Table 141. Frequency Table and Chi-Square Test by Groups for Item b

(b) I would find dreaming about having sex with an unattractive person of the opposite sex to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	29	28	6	22	7	2	2	96
Row %	30.21%	29.17%	6.25%	22.92 %	7.29%	2.08%	2.08%	
Psych 1	160	167	58	94	50	8	2	539
Row %	29.68%	30.98%	10.76%	17.44 %	9.28%	1.48%	0.37%	
Totals	189	195	64	116	57	10	4	635

	Chi-square	**df**	**P**
Pearson Chi-square	7.414164	df=6	p=.28425

No significant group effect on the responses to item b.

Table 142. Frequency Table and Chi-Square Test by Groups for Item c

(c) I would find dreaming about having sex with a good-looking person of my same sex to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	50	19	2	10	6	7	2	96
Row %	52.08%	19.79%	2.08%	10.42%	6.25%	7.29%	2.08%	
Psych 1	328	50	16	38	34	23	16	505
Row %	64.95%	9.90%	3.17%	7.52%	6.73%	4.55%	3.17%	
Totals	378	69	18	48	40	30	18	601

	Chi-square	**df**	**P**
Pearson Chi-square	11.71451	df=6	p=.06866

No significant group effect on the responses to item c.

Table 143. Frequency Table and Chi-Square Test by Groups for Item d

(d) I would find dreaming about having sex with an unattractive person of my same sex to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	69	9	4	10	1	2	0	95
Row %	72.63%	9.47%	4.21%	10.53 %	1.05%	2.11%	0.00%	
Psych 1	419	47	11	20	3	2	2	504
Row %	83.13%	9.33%	2.18%	3.97%	0.60%	0.40%	0.40%	
Totals	488	56	15	30	4	4	2	599

	Chi-square	**df**	**P**
Pearson Chi-square	13.38233	df=6	p=.03736

There is a significant group effect ($p < 0.05$). The distributions of the responses to item d are significantly different, with the Psych 1's tending more towards the negative extreme relative to the Psych 3's.

Table 144. Frequency Table and Chi-Square Test by Groups for Item e

(e) I would experience having a good-looking person of the opposite sex perform sexual acts on me to be a(n) _____ experience.								
	Very Unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	1	3	2	4	3	51	34	98
Row %	1.02%	3.06%	2.04%	4.08%	3.06%	52.04%	34.69%	
Psych 1	16	10	6	22	40	172	273	539
Row %	2.97%	1.86%	1.11%	4.08%	7.42%	31.91%	50.65%	
Totals	17	13	8	26	43	223	307	637

	Chi-square	**df**	**P**
Pearson Chi-square	18.65180	df=6	p=.00480

There is a significant group effect ($p < 0.01$). The distributions of the responses to item e are significantly different, with the Psych 1's tending more towards the positive extreme relative to the Psych 3's.

Table 145. Frequency Table and Chi-Square Test by Groups for Item f

(f) I would experience having an unattractive person of the opposite sex perform sexual acts on me to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	24	21	10	7	17	15	2	96
Row %	25.00%	21.88%	10.42%	7.29%	17.71%	15.63%	2.08%	
Psych 1	142	107	52	79	101	48	12	541
Row %	26.25%	19.78%	9.61%	14.60%	18.67%	8.87%	2.22%	
Totals	166	128	62	86	118	63	14	637

	Chi-square	**df**	**p**
Pearson Chi-square	7.315500	df=6	p=.29266

No significant group effect on the responses to item f.

Table 146. Frequency Table and Chi-Square Test by Groups for Item g

(g) I would experience having a good-looking person of my same sex perform sexual acts on me to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	56	16	0	8	7	7	2	96
Row %	58.33%	16.67%	0.00%	8.33%	7.29%	7.29%	2.08%	
Psych 1	345	45	10	28	29	28	18	503
Row %	68.59%	8.95%	1.99%	5.57%	5.77%	5.57%	3.58%	
Totals	401	61	10	36	36	35	20	599

	Chi-square	**df**	**p**
Pearson Chi-square	10.18279	df=6	p=.11717

No significant group effect on the responses to item g.

Table 147. Frequency Table and Chi-Square Test by Groups for Item h

(h) I would experience having an unattractive person of my same sex perform sexual acts on me to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	68	11	1	8	5	2	0	95
Row %	71.58%	11.58%	1.05%	8.42%	5.26%	2.11%	0.00%	
Psych 1	414	43	16	14	10	3	3	503
Row %	82.31%	8.55%	3.18%	2.78%	1.99%	0.60%	0.60%	
Totals	482	54	17	22	15	5	3	598

	Chi-square	**df**	**p**
Pearson Chi-square	16.28963	df=6	p=.01229

There is a significant group effect ($p < 0.05$). The distributions of the responses to item h are significantly different, with the Psych 1's tending more towards the negative extreme relative to the Psych 3's.

Table 148. Frequency Table and Chi-Square Test by Groups for Item i

(i) I would experience performing sexual acts on a good-looking person of the opposite sex to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	5	0	0	8	15	46	24	98
Row %	5.10%	0.00%	0.00%	8.16%	15.31%	46.94%	24.49%	
Psych 1	20	11	14	38	67	184	205	539
Row %	3.71%	2.04%	2.60%	7.05%	12.43%	34.14%	38.03%	
Totals	25	11	14	46	82	230	229	637

	Chi-square	**df**	**p**
Pearson Chi-square	13.62422	df=6	p=.03414

There is a significant group effect ($p < 0.05$). The distributions of the responses to item i are significantly different, with the Psych 1's tending more towards the positive extreme relative to the Psych 3's.

Table 149. Frequency Table and Chi-Square Test by Groups for Item j

(j) I would experience performing sexual acts on an unattractive person of the opposite sex to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	30	20	11	14	9	10	2	96
Row %	31.25%	20.83%	11.46%	14.58%	9.38%	10.42%	2.08%	
Psych 1	190	108	62	84	68	25	5	542
Row %	35.06%	19.93%	11.44%	15.50%	12.55%	4.61%	0.92%	
Totals	220	128	73	98	77	35	7	638

	Chi-square	**df**	**p**
Pearson Chi-square	7.109672	df=6	p=.31083

No significant group effect on the responses to item j.

Table 150. Frequency Table and Chi-Square Test by Groups for Item k

(k) I would experience performing sexual acts on a good-looking person of my same sex to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	61	11	2	9	3	7	2	95
Row %	64.21%	11.58%	2.11%	9.47%	3.16%	7.37%	2.11%	
Psych 1	356	53	8	26	24	22	15	504
Row %	70.63%	10.52%	1.59%	5.16%	4.76%	4.37%	2.98%	
Totals	417	64	10	35	27	29	17	599

	Chi-square	**df**	**p**
Pearson Chi-square	5.393082	df=6	p=.49448

No significant group effect on the responses to item k.

Table 151. Frequency Table and Chi-Square Test by Groups for Item l

(l) I would experience performing sexual acts on an unattractive person of my same sex to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	71	10	1	5	4	3	0	94
Row %	75.53%	10.64%	1.06%	5.32%	4.26%	3.19%	0.00%	
Psych 1	422	56	8	13	4	1	1	505
Row %	83.56%	11.09%	1.58%	2.57%	0.79%	0.20%	0.20%	
Totals	493	66	9	18	8	4	1	599

	Chi-square	**df**	**p**
Pearson Chi-square	20.70306	df=6	p=.00208

There is a significant group effect ($p < 0.01$). The distributions of the responses to item l are significantly different, with the Psych 1's tending more towards the negative extreme relative to the Psych 3's.

Table 152. Frequency Table and Chi-Square Test by Groups for Item m

(m) I would experience a good-looking person of the opposite sex finding me attractive to be a(n) _____ experience.								
	Very Unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	1	0	0	1	2	37	57	98
Row %	1.02%	0.00%	0.00%	1.02%	2.04%	37.76%	58.16%	
Psych 1	6	3	2	10	17	132	371	541
Row %	1.11%	0.55%	0.37%	1.85%	3.14%	24.40%	68.58%	
Totals	7	3	2	11	19	169	428	639

	Chi-square	**df**	**p**
Pearson Chi-square	8.520012	df=6	p=.20244

No significant group effect on the responses to item m.

Table 153. Frequency Table and Chi-Square Test by Groups for Item h

(n) I would experience an unattractive person of the opposite sex finding me attractive to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	4	6	8	11	31	26	11	97
Row %	4.12%	6.19%	8.25%	11.34%	31.96%	26.80%	11.34%	
Psych 1	31	39	37	109	160	111	55	542
Row %	5.72%	7.20%	6.83%	20.11%	29.52%	20.48%	10.15%	
Totals	35	45	45	120	191	137	66	639

	Chi-square	**df**	**p**
Pearson Chi-square	5.919562	df=6	p=.43227

No significant group effect on the responses to item n.

Table 154. Frequency Table and Chi-Square Test by Groups for Item o

(o) I would experience a good-looking person of my same sex finding me attractive to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	27	17	10	15	7	9	10	95
Row %	28.42%	17.89%	10.53%	15.79 %	7.37%	9.47%	10.53%	
Psych 1	205	58	44	72	65	36	25	505
Row %	40.59%	11.49%	8.71%	14.26 %	12.87%	7.13%	4.95%	
Totals	232	75	54	87	72	45	35	600

	Chi-square	**df**	**p**
Pearson Chi-square	12.97925	df=6	p=.04338

There is a significant group effect ($p < 0.05$). The distributions of the responses to item o are significantly different, with the Psych 1's tending more towards the negative extreme relative to the Psych 3's.

Table 155. Frequency Table and Chi-Square Test by Groups for Item p

(p) I would experience an unattractive person of my same sex finding me attractive to be a(n) _____ experience.								
	Very unpleasant	**Unpleasant**	**Slightly Unpleasant**	**Neutral**	**Slightly Pleasurable**	**Pleasurable**	**Very Pleasurable**	**Row**
Psych 3	38	18	8	13	6	6	5	94
Row %	40.43%	19.15%	8.51%	13.83%	6.38%	6.38%	5.32%	
Psych 1	266	77	36	82	24	14	6	505
Row %	52.67%	15.25%	7.13%	16.24%	4.75%	2.77%	1.19%	
Totals	304	95	44	95	30	20	11	599

	Chi-square	**df**	**p**
Pearson Chi-square	14.47822	df=6	P=.02473

There is a significant group effect ($p < 0.05$). The distributions of the responses to item p are significantly different, with the Psych 1's tending more towards the negative extreme relative to the Psych 3's.

An examination of the above tables reveals that seven items evidenced significant group effects, i.e. the distributions of responses in the different groups were found to be significantly different. These items were d, e, h, i, l, o and p. None of these items came from the Unattractive Opposite Sex grouping of items. All four of the items in the Unattractive Same Sex grouping were included. The Fantasy grouping had the least number of these items in (one), followed by the Attraction, Receiving Contact and Performing Contact clusters of items with two in each. In all these cases the Psych 1's responded in more extreme ways than did the Psych 3's. Predictably the younger group typically recorded more extreme positive responses for those items (e and i) pertaining to the Attractive Opposite Sex and more extreme negative responses for those items pertaining to their Same Sex (d, h, l, o, and p). Interestingly these items were not limited to the *Unattractive* Same Sex but also included *Attractive* Same Sex people finding *them* attractive.

Dimension Analysis

The table below contains descriptive statistics for various 21 item groupings or dimensions:

Table 156. Descriptive Statistics for Item Groupings

Item grouping	Valid N	Mean	Minimum	Maximum	Std.Dev.
Fantasy (a-d)	593	5.046	1.750	7.00	0.880
Contact (e-l)	591	4.934	1.875	7.00	0.858
Attraction (m-p)	599	3.891	1.000	7.00	1.073
Fantasy Attractive (a, c)	597	4.046	1.000	7.00	1.140
Fantasy Unattractive (b, d)	597	6.039	2.000	7.00	0.972
Contact Attractive (e, g, i, k)	594	4.052	1.000	7.00	1.077
Contact Unattractive (f, h, j, l)	594	5.823	2.000	7.00	1.022
Attraction Attractive (m, o)	600	3.268	1.000	7.00	1.141
Attraction Unattractive (n, p)	599	4.517	1.000	7.00	1.289
Fantasy Opposite (a, b)	631	3.851	1.000	7.00	1.068
Fantasy Same (c, d)	598	6.260	1.000	7.00	1.222
Contact Opposite (e, f, i, j)	631	3.566	1.000	7.00	1.147
Contact Same (g, h, k, l)	595	6.321	1.000	7.00	1.169
Attraction Opposite (m, n)	638	2.404	1.000	7.00	0.992
Attraction Same (o, p)	599	5.397	1.000	7.00	1.682
Opposite (a, b, e, f, I, j, m, n)	625	3.272	1.000	7.00	0.836
Same (c, d, g, h, k, l, o, p)	595	5.990	1.167	7.00	1.197
Attractive (a, c, e, g, i, k, m, o)	591	3.790	1.000	7.00	0.958
Unattractive (b, d, f, h, j, l, n, p)	593	5.459	2.333	7.00	0.887
Contact Passive (e-h)	594	4.803	1.000	7.00	0.955
Contact Active (i-l)	595	5.070	1.750	7.00	0.871

Table 157. ANOVA Tests – Tests for Group Effect

	SS effect	df	MS effect	SS error	Df	MS error	F	P
Fantasy	1.69	1	1.69	456.743	591	0.77	2.19	0.139473
Contact	1.54	1	1.54	432.604	589	0.73	2.10	0.148058
Attraction	5.46	1	5.46	682.862	597	1.14	4.77	**0.029303**
Fantasy Attractive	0.59	1	0.59	773.388	595	1.30	0.46	0.499023
Fantasy Unattractive	2.37	1	2.37	560.455	595	0.94	2.52	0.113229
Contact Attractive	0.11	1	0.11	688.364	592	1.16	0.09	0.762068
Contact Unattractive	4.73	1	4.73	614.429	592	1.04	4.56	**0.033100**
Attraction Attractive	2.28	1	2.28	777.522	598	1.30	1.75	0.186272
Attraction Unattractive	9.25	1	9.25	985.087	597	1.65	5.60	**0.018242**
Fantasy Opposite	0.40	1	0.40	717.598	629	1.14	0.35	0.554469
Fantasy Same	5.89	1	5.89	885.920	596	1.49	3.97	**0.046895**
Contact Opposite	0.06	1	0.06	828.583	629	1.32	0.05	0.827472
Contact Same	5.29	1	5.29	806.173	593	1.36	3.89	**0.048981**
Attraction Opposite	0.91	1	0.91	625.912	636	0.98	0.92	0.336723
Attraction Same	15.32	1	15.32	1677.111	597	2.81	5.46	**0.019842**
Opposite	0.27	1	0.27	436.154	623	0.70	0.39	0.535089
Same	8.22	1	8.22	842.911	593	1.42	5.78	**0.016483**
Attractive	0.75	1	0.75	540.177	589	0.92	0.82	0.366105
Unattractive	5.22	1	5.22	460.075	591	0.78	6.70	**0.009863**
Contact Passive	1.26	1	1.26	539.820	592	0.91	1.38	0.240268
Contact Active	1.83	1	1.83	448.399	593	0.76	2.42	0.120203

The **bold** denotes item groupings with significant differences between the 2 sample groups.
Marked effects are significant at p < .0500

From the above table it can be seen that there is a significant difference between the two sample groups (Psych 1's and Psych 3's) with regard to responses to 8 of the 21 designated groupings of items. The item groupings which the ANOVAs suggested were responded to in significantly different ways by the two groups concerned were mostly only significantly different at the $p < 0.05$ level. The only exception was the Unattractive item cluster responses, which were significant at the $p < 0.01$ level. Unlike the previous questionnaire, a significant difference was indicated between the groups with regard to Same Sex responsiveness. This was true of all the constituent groupings to Same Sex responsiveness: Same Sex Attraction, Same Sex Contact and Same Sex Fantasy. No significant differences were picked up for the corresponding Opposite Sex groupings. This was the case even though the Attraction grouping as a whole also exhibited significant differences in responses

between the Psych 1's and the Psych 3's. Interestingly the Contact and Attraction groupings of items dealing with people perceived to be Unattractive were also found to be significantly different whereas the Fantasy grouping pertaining to Unattractive people did not show a significant difference.

As previously stated ANOVAs assume homogeneity of variances and once again a table is provided depicting which responses to item groupings failed to meet this criterion:

Table 158. Tests for Homogeneity of the Variances

Levene Test of Homogeneity of Variances – Marked effects are significant at p < .0100								
	SS effect	**df**	**MS effect**	**SS error**	**Df**	**MS error**	**F**	**P**
Fantasy	1.148004	1	1.148004	181.7321	591	0.307499	3.73335	0.053814
Contact	2.109761	1	2.109761	173.9022	589	0.295250	7.14568	**0.007723**
Attraction	0.514556	1	0.514556	229.7408	597	0.384825	1.33711	0.248006
Fantasy Attractive	0.033597	1	0.033597	370.1302	595	0.622068	0.05401	0.816310
Fantasy Unattractive	3.427703	1	3.427703	190.5231	595	0.320207	10.70465	**0.001131**
Contact Attractive	0.002478	1	0.002478	361.5517	592	0.610729	0.00406	0.949236
Contact Unattractive	5.017161	1	5.017161	190.4681	592	0.321737	15.59399	**0.000088**
Attraction Attractive	0.125718	1	0.125718	220.3183	598	0.368425	0.34123	0.559340
Attraction Unattractive	1.317053	1	1.317053	373.0998	597	0.624958	2.10743	0.147111
Fantasy Opposite	0.006955	1	0.006955	292.0583	629	0.464322	0.01498	0.902634
Fantasy Same	3.336889	1	3.336889	336.0721	596	0.563879	5.91773	0.015282
Contact Opposite	0.242445	1	0.242445	305.8035	629	0.486174	0.49868	0.480342
Contact Same	4.574293	1	4.574293	316.1887	593	0.533202	8.57891	**0.003531**
Attraction Opposite	0.358441	1	0.358441	260.3510	636	0.409357	0.87562	0.349759
Attraction Same	2.811810	1	2.811810	412.8156	597	0.691483	4.06635	0.044193
Opposite	0.288553	1	0.288553	165.9383	623	0.266354	1.08335	0.298354
Same	2.675100	1	2.675100	306.7823	593	0.517339	5.17088	0.023325
Attractive	0.039032	1	0.039032	222.8800	589	0.378404	0.10315	0.748197
Unattractive	3.522599	1	3.522599	162.9152	591	0.275660	12.77877	**0.000379**
Contact Passive	1.946425	1	1.946425	226.5916	592	0.382756	5.08529	0.024494
Contact Active	1.747077	1	1.747077	182.9287	593	0.308480	5.66350	0.017637

Five of the clusters did not have homogeneity of variances ($p < 0.01$) but only three of these pertained to clusters identified by the ANOVA as being significantly different. The non-parametric test results concurred with the ANOVA findings however,

suggesting that all the item groupings referred to above *do* appear to have been responded to significantly differently by the two groups concerned.

Dependent *t*-tests were performed to determine if there were significant differences between responses of the various designated item clusters. As evident in the table below, there is a significant difference between Fantasy and Contact responses (t = 4.07, 586 df, $p < 0.0001$); between Fantasy and Attraction responses (t = 27.47, 590 df, $p < 0.0001$) as well as between Contact and Attraction responses (t = 25.73, 590 df, $p < 0.0001$).

Table 159. *t*-test for Dependent Samples – All Groups

	Mean	Std.Dv.	N	Diff.	Std.Dv.	T	df	p
Fantasy	5.04	0.88						
Contact	4.94	0.86	587	0.109	0.648	4.07	586	**0.000054**
Fantasy	5.05	0.88						
Attraction	3.89	1.08	591	1.162	1.029	27.47	590	**0.000000**
Contact	4.93	0.86						
Attraction	3.88	1.08	591	1.051	0.993	25.73	590	**0.000000**

Significant differences were also found to exist between responses to the Opposite and Same item groupings (t = -49.40, 586 df, $p < 0.0001$); between the Attractive and Unattractive item groupings (t = -41.78, 586 df, $p < 0.0001$) and between the Passive Contact and Active Contact item groupings (t = -10.04, 590 df, $p < 0.0001$) as evident in the table below:

Table 160. *t*-test for Dependent Samples

	Mean	Std.Dv.	N	Diff.	Std.Dv.	T	df	p
Opposite	3.25	0.84						
Same	5.99	1.20	587	-2.737	1.342	-49.40	586	**0.000000**
Attractive	3.79	0.96						
Unattractive	5.46	0.89	587	-1.671	0.969	-41.78	586	**0.000000**
Passive Contact	4.80	0.96						
Active Contact	5.07	0.87	591	-0.263	0.637	-10.04	590	**0.000000**

The table below shows that the responses for the remaining designated item groupings were all (with one exception) significantly different. The difference

between the Same Sex Fantasy and Same Sex Contact item clusters was significant at the $p < 0.05$ level while all other differences were significant at the $p < 0.0001$ level. The only exception was the Attractive-person Fantasy and Attractive-person Contact clusters where responses were not found to be significantly different.

Table 161. *t*-test for Dependent Samples – All Groups

	Mean	Std.Dv.	N	Diff.	Std.Dv.	t	df	p
Attractive Fantasy	4.05	1.137						
Unattractive Fantasy	6.05	0.966	593	-1.999	1.165	-41.78	592	**0.000000**
Attractive Fantasy	4.05	1.136						
Attractive Contact	4.05	1.074	591	-0.001	0.804	-0.03	590	0.979610
Attractive Fantasy	4.04	1.135						
Unattractive Contact	5.82	1.023	591	-1.781	1.335	-32.43	590	**0.000000**
Attractive Fantasy	4.05	1.139						
Attractive Attraction	3.27	1.142	594	0.785	1.105	17.31	593	**0.000000**
Attractive Fantasy	4.05	1.137						
Unattractive Attraction	4.51	1.292	593	-0.463	1.493	-7.56	592	**0.000000**
Attractive Fantasy	4.05	1.137						
Opposite Contact	3.54	1.150	591	0.501	1.384	8.80	590	**0.000000**
Attractive Fantasy	4.04	1.134						
Same Contact	6.32	1.167	592	-2.280	0.991	-56.00	591	**0.000000**
Attractive Fantasy	4.04	1.138						
Opposite Attraction	2.39	0.990	595	1.656	1.435	28.16	594	**0.000000**
Attractive Fantasy	4.05	1.137						
Same Attraction	5.39	1.686	593	-1.344	1.500	-21.83	592	**0.000000**
Unattractive Fantasy	6.04	0.970						
Attractive Contact	4.05	1.080	591	1.987	1.175	41.09	590	**0.000000**
Unattractive Fantasy	6.04	0.971						
Unattractive Contact	5.82	1.022	593	0.220	0.827	6.49	592	**0.000000**
Unattractive Fantasy	6.04	0.970						
Attractive Attraction	3.26	1.143	594	2.784	1.325	51.22	593	**0.000000**
Unattractive Fantasy	6.04	0.970						
Unattractive Attraction	4.51	1.292	594	1.533	1.307	28.58	593	**0.000000**
Unattractive Fantasy	6.03	0.973						
Opposite Contact	3.54	1.152	592	2.490	1.133	53.48	591	**0.000000**
Unattractive Fantasy	6.04	0.971						
Same Contact	6.32	1.170	593	-0.277	1.125	-6.00	592	**0.000000**
Unattractive Fantasy	6.04	0.973						
Opposite Attraction	2.39	0.992	595	3.653	1.284	69.40	594	**0.000000**

Unattractive Fantasy	6.04	0.970						
Same Attraction	5.39	1.684	594	0.657	1.636	9.79	593	**0.000000**
Attractive Contact	4.05	1.078						
Unattractive Contact	5.82	1.023	591	-1.771	1.214	-35.46	590	**0.000000**
Attractive Contact	4.05	1.077						
Attractive Attraction	3.26	1.142	594	0.789	1.060	18.15	593	**0.000000**
Attractive Contact	4.05	1.078						
Unattractive Attraction	4.51	1.292	593	-0.456	1.477	-7.51	592	**0.000000**
Attractive Contact	4.05	1.077						
Opposite Fantasy	3.83	1.073	588	0.223	1.227	4.40	587	**0.000013**
Attractive Contact	4.05	1.078						
Same Fantasy	6.26	1.223	593	-2.211	0.970	-55.52	592	**0.000000**
Attractive Contact	4.05	1.078						
Opposite Attraction	2.38	0.988	593	1.673	1.373	29.67	592	**0.000000**
Attractive Contact	4.05	1.078						
Same Attraction	5.39	1.684	593	-1.339	1.504	-21.68	592	**0.000000**
Unattractive Contact	5.82	1.022						
Attractive Attraction	3.26	1.143	594	2.563	1.385	45.09	593	**0.000000**
Unattractive Contact	5.82	1.022						
Unattractive Attraction	4.51	1.292	594	1.310	1.229	26.	593	**0.000000**
Unattractive Contact	5.82	1.024						
Opposite Fantasy	3.83	1.069	590	1.993	1.093	44.28	589	**0.000000**
Unattractive Contact	5.82	1.022						
Same Fantasy	6.26	1.225	594	-0.436	1.299	-8.17	593	**0.000000**
Unattractive Contact	5.82	1.022						
Opposite Attraction	2.39	0.990	594	3.437	1.196	70.06	593	**0.000000**
Unattractive Contact	5.82	1.022						
Same Attraction	5.39	1.685	594	0.436	1.686	6.30	593	**0.000000**
Attractive Attraction	3.27	1.141						
Unattractive Attraction	4.52	1.289	599	-1.250	1.151	-26.59	598	**0.000000**
Attractive Attraction	3.27	1.142						
Opposite Fantasy	3.84	1.079	594	-0.577	1.427	-9.85	593	**0.000000**
Attractive Attraction	3.26	1.141						
Same Fantasy	6.26	1.224	596	-2.999	1.161	-63.08	595	**0.000000**
Attractive Attraction	3.26	1.142						
Opposite Contact	3.55	1.150	594	-0.291	1.486	-4.78	593	**0.000002**
Attractive Attraction	3.26	1.142						
Same Contact	6.32	1.169	595	-3.060	1.139	-65.55	594	**0.000000**
Unattractive Attraction	4.51	1.293						
Opposite Fantasy	3.84	1.079	594	0.672	1.454	11.26	593	**0.000000**

Unattractive Attraction	4.51	1.291						
Same Fantasy	6.26	1.224	596	-1.749	1.498	-28.51	595	**0.000000**
Unattractive Attraction	4.51	1.291						
Opposite Contact	3.55	1.150	594	0.954	1.454	15.98	593	**0.000000**
Unattractive Attraction	4.51	1.291						
Same Contact	6.32	1.169	595	-1.808	1.435	-30.73	594	**0.000000**
Opposite Fantasy	3.83	1.072						
Same Fantasy	6.26	1.223	593	-2.429	1.480	-39.97	592	**0.000000**
Opposite Fantasy	3.85	1.070						
Opposite Contact	3.57	1.149	625	0.282	0.999	7.058	624	**0.000000**
Opposite Fantasy	3.83	1.069						
Same Contact	6.32	1.169	590	-2.490	1.482	-40.81	589	**0.000000**
Opposite Fantasy	3.85	1.068						
Opposite Attraction	2.40	0.993	629	1.449	1.255	28.96	628	**0.000000**
Opposite Fantasy	3.84	1.079						
Same Attraction	5.39	1.684	594	-1.550	1.850	-20.42	593	**0.000000**
Same Fantasy	6.26	1.223						
Opposite Contact	3.54	1.151	593	2.715	1.623	40.74	592	**0.000000**
Same Fantasy	6.26	1.224						
Same Contact	6.32	1.169	595	-0.062	0.678	-2.22	594	**0.026752**
Same Fantasy	6.26	1.223						
Opposite Attraction	2.39	0.991	597	3.874	1.593	59.41	596	**0.000000**
Same Fantasy	6.26	1.224						
Same Attraction	5.39	1.684	596	0.870	1.380	15.39	595	**0.000000**
Opposite Contact	3.55	1.147						
Same Contact	6.32	1.168	591	-2.776	1.554	-43.43	590	**0.000000**
Opposite Contact	3.57	1.147						
Opposite Attraction	2.40	0.990	631	1.167	1.215	24.13	630	**0.000000**
Opposite Contact	3.55	1.150						
Same Attraction	5.39	1.684	594	-1.838	1.925	-23.26	593	**0.000000**
Same Contact	6.32	1.169						
Same Fantasy	6.26	1.224	595	0.062	0.678	2.22	594	**0.026752**
Same Contact	6.32	1.169						
Opposite Attraction	2.38	0.989	595	3.937	1.534	62.61	594	**0.000000**
Same Contact	6.32	1.169						
Same Attraction	5.39	1.685	595	0.932	1.360	16.70	594	**0.000000**
Opposite Attraction	2.39	0.989						
Same Attraction	5.40	1.682	599	-3.012	1.735	-42.48	598	**0.000000**
Same Attraction	5.39	1.684						
Same Fantasy	6.26	1.224	596	-0.870	1.380	-15.39	595	**0.000000**

Same Attraction	5.39	1.684						
Opposite Contact	3.55	1.150	594	1.838	1.925	23.26	593	**0.000000**
Same Attraction	5.39	1.685						
Same Contact	6.32	1.169	595	-0.932	1.360	-16.70	594	**0.000000**
Same Attraction	5.40	1.682						
Opposite Attraction	2.39	0.989	599	3.012	1.735	42.48	598	**0.000000**

Reliability

Whole Scale

Both the Cronbach *alpha* coefficient and the standardized *alpha* coefficient for Questionnaire 2, calculated for the entire sample, were 0.82, indicating a good overall internal consistency for the questionnaire. The *alpha* coefficients obtained for the 2 groups which were administered this questionnaire were also acceptable. The psychology 3rd year student sample reliability coefficient was 0.87 while that for the psychology 1st year student sample was 0.81.

All Groups

Number of items in scale: 16

Number of valid cases: 587

Number of cases with missing data: 248

Missing data were deleted: casewise

Summary Statistics for the Whole Scale (All Groups)

Mean: 52.81

Sum: 31001.00

Standard Deviation: 12.50

Variance: 156.22

Skewness: .62

Kurtosis: .65

Minimum: 16.00

Maximum: 96.00

Cronbach's alpha: .82

Standardized alpha: .82

Average Inter-Item Correlation: .25

The table below provides data for both groups for the whole scale. It shows the effect on the *alpha* if a particular item was omitted and also gives the correlation between that item's responses and that of the total. Only the omission of three items (a, i and m) would have *marginally* improved reliability – at a third or fourth decimal place.

Table 162. Summary for Scale: *alpha* if Items Deleted

Valid N:587
Cronbach alpha: .823615

	Item-Total correlation	Alpha if Deleted
Item a	0.250619	**0.823740**
Item b	0.425522	0.814266
Item c	0.588464	0.802657
Item d	0.545856	0.811355
Item e	0.288333	0.821862
Item f	0.417127	0.815749
Item g	0.624655	0.799717
Item h	0.532365	0.810693
Item i	0.226277	**0.826035**
Item j	0.368510	0.818423
Item k	0.585729	0.803164
Item l	0.530358	0.812665
Item m	0.106226	**0.828223**
Item n	0.306356	0.821792
Item o	0.598120	0.801517
Item p	0.550271	0.805869

Table 163. Group Comparison of Summary Statistics for Scale

	Psych 3	Psych 1
Total Cases	99	547
Valid Cases	93	494
% Valid Cases	93.93	90.31
Cases Missing Data	6	53
% Cases Missing Data	0.06	0.10
Mean	55.14	52.37
Sum	5128.00	25873.00
Standard Deviation	14.57	12.04
Variance	212.17	144.88
Skewness	.90	.48
Kurtosis	.36	.52
Minimum	32.00	16.00
Maximum	96.00	95.00
Cronbach's *alpha*	**.87**	**.81**
Standardized *alpha*	**.85**	**.81**
Average Inter-item Correlation	.30	.27

It is evident from the above table that the Cronbach *alpha* coefficients for both groups falls above the level recommended by Crano and Brewer (1973) and strong internal consistency reliability is therefore indicated.

Scale Dimensions

The reliability of the 5 hypothesized dimensions was ascertained by determining the *alpha* coefficients of these individual dimensions for both groups combined, as well as for each group separately. These results are presented in the table below:

Table 164. Scale Dimension *alpha* Coefficients

Dimension	**Items**	**Whole group**	**Psych 3's**	**Psych 1's**
Fantasy	a-d	.50(n=593)	.68(n=94)	.45(n=499)
Attraction	m-p	.62(n=599)	.66(n=94)	.61(n=505)
Contact	e-l	.71(n=591)	**.80**(n=93)	.68(n=498)
Passive Contact	e-h	.47(n=594)	.65(n=94)	.42(n=500)
Active Contact	i-l	.39(n=595)	.55(n=93)	.34(n=502)

From the above it is evident that the only proposed dimension to fulfill Crano and Brewer's (1973) criterion of an *alpha* coefficient of 0.80 is the Contact cluster of items and then only in the Psych 3 group.

Validity

All Groups (excluding scholars)

Table 165. Suitability of factor analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.804
Bartlett's Test of Sphericity	Approx. Chi-Square	5521.278
	Df	120
	Sig.	.000

The KMO measure of sampling adequacy is large (0.80) and therefore indicates that a factor analysis of the variables would be appropriate. Bartlett's test of sphericity Chi-square(120) = 5521.28, $p < 0.0001$ strongly implies that the correlations among the variables are significantly different to zero and it is therefore concluded that the strength of the relationship among variables is strong thus also indicating the appropriateness of proceeding a factor analysis.

Basic descriptive information on all 16 items upon which the factor analysis was performed is provided in the following table:

Table 166. Descriptive Statistics: Means and Standard Deviations (N = 587)

	Mean	Std. Deviation
A	2.196	1.311
B	5.457	1.427
c	*5.894*	*1.755*
d	*6.629*	*.948*
E	1.906	1.338
F	4.784	1.833
g	*5.951*	*1.795*
h	*6.572*	*1.061*
I	2.247	1.462
J	5.254	1.674
k	*6.097*	*1.673*
l	*6.670*	*.888*
M	1.479	.955
N	3.286	1.546
o	*5.041*	*1.976*
p	*5.726*	*1.622*

Four factors, accounting for 70% of the variation in the data, were identified using the Kaiser criteria which stipulate that only factors with an eigenvalue greater than 1 be considered, as evident in the following table:

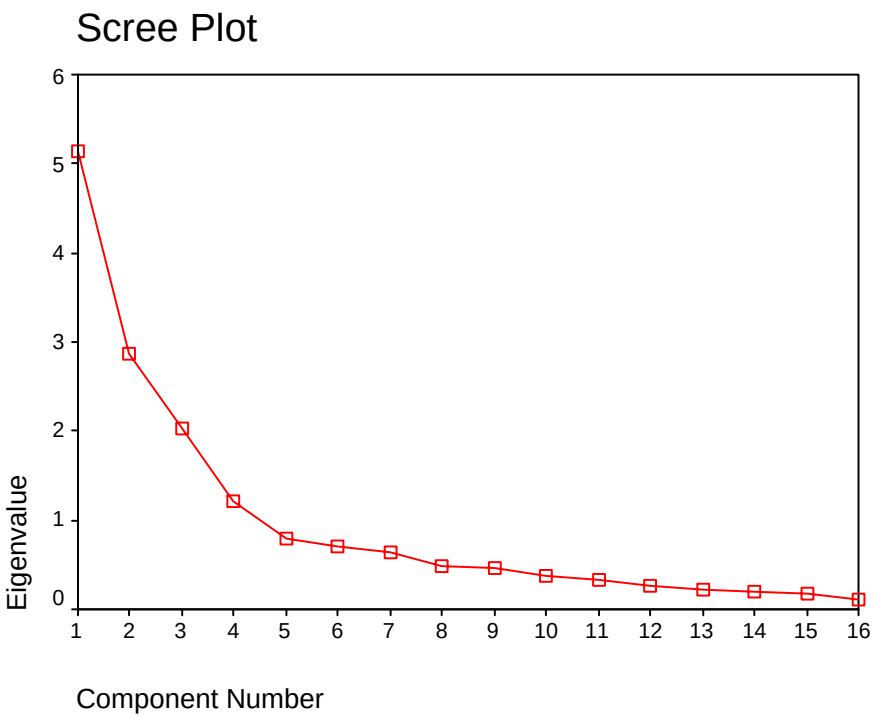
Table 167. Eigenvalues.

Eigenvalues Extraction: Principal components

	Eigenvalue	**% Total**	**Cumulative**
1	5.149	32.186	32.184
2	2.867	17.916	50.100
3	2.037	12.730	62.830
4	1.215	7.592	70.421

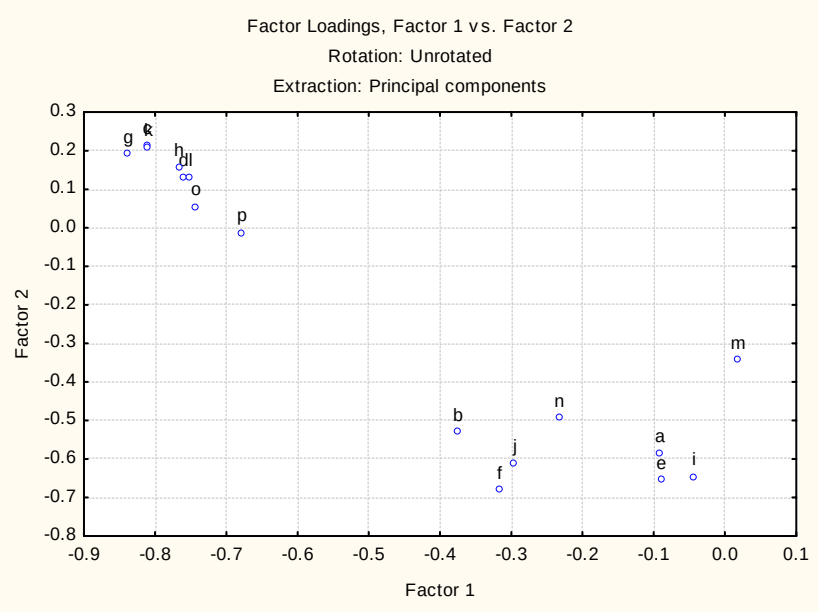
A root curve analysis (stop at the eigenvalue associated with the point of inflection of a scree plot of the eigenvalues from largest to smallest) (Weinrich et al., 1993) confirmed that the number of factors to be considered should be four.

Figure 15. Scree Plot of Eigenvalues: All Groups



Unrotated loadings show 2 main factors: Same Sex Responsiveness and Opposite Sex Responsiveness as depicted in the graph below:

Figure 16. Factor Loadings Graph: All Groups



The table below provides the factor loadings for each item for the unrotated orthogonal solution (principal components). The figures in bold represent the highest factor loading per item. Rows in italics refer to Same Sex items.

Table 168. Orthogonal Factor Loadings (Unrotated)

	Component			
	1	2	3	4
A	.091	**.587**	.443	-.152
B	.375	**.531**	-.419	-.173
c	***.811***	*-.211*	*.292*	*-.105*
d	***.760***	*-.130*	*-.125*	*-.207*
E	.089	**.657**	.560	-.148
F	.314	**.683**	-.446	-.057
g	***.838***	*-.189*	*.271*	*-.122*
h	***.766***	*-.155*	*-.224*	*-.103*
I	.043	**.647**	.453	-.248
J	.295	**.611**	-.508	-.121
k	***.809***	*-.207*	*.243*	*-.149*
l	***.750***	*-.131*	*-.245*	*-.103*
M	-.020	.345	**.439**	.421
N	.233	.496	-.282	**.580**
o	***.743***	*-.053*	*.270*	*.395*
p	***.678***	*.014*	*.001*	*.527*

Extraction Method: Principal Component Analysis.
a 4 components extracted.

From the preceding table it is evident that all eight of the items dealing with *Same Sex Responsiveness* (*italics)* load most heavily on Factor 1 at level 0.68 or higher. The items with the weakest loadings are those which concern Attraction. Six of the eight items dealing with *Opposite Sex Responsiveness* (UPPER CASE) load most heavily on Factor 2 at above the 0.53 level. The two items dealing with Opposite Sex Responsiveness that do not load on Factor 2 (m and n) load at above the 0.5 level on Factors 3 and 4. Both these items relate to Attraction.

The oblique solution factor loadings for both groups combined are presented in the following table:

Table 169. Oblique Factor Loadings

Item	Component			
	1	2	3	4
A	.054	.131	**.747**	.009
B	.124	**.763**	.122	-.017
c	***.901***	*-.155*	*.142*	*.004*
d	***.768***	*.206*	*-.066*	*-.112*
E	.056	.093	**.872**	.034
F	-.031	**.842**	.154	.122
g	***.920***	*-.116*	*.148*	*-.005*
h	***.717***	*.236*	*-.190*	*-.014*
I	.031	.176	**.825**	-.083
J	-.015	**.850**	.087	.035
k	***.903***	*-.108*	*.125*	*-.043*
l	***.689***	*.263*	*-.189*	*-.013*
M	-.188	-.183	.375	**.522**
N	-.251	.439	-.085	**.725**
o	***.589***	*-.165*	*.041*	*.535*
p	*.393*	*.024*	*-.157*	***.660***

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.
a Rotation converged in 6 iterations.

Oblique Factor 1 was once again strongly associated with *Same Sex Responsiveness*, including seven of the eight (*italicised)* items which deal with this. These items loaded on this factor at a level of 0.69 and higher except for the Attraction item (o) which loaded at level 0.59. The only Same Sex item not to load on this factor was item p, the Attraction item dealing with Unattractive people.

Oblique Factor 2 consisted of the three items dealing with *Unattractive Opposite Sex* people (all loading at above the 0.76 level) while oblique Factor 3 consisted of the three items dealing with *Attractive Opposite Sex* people which all loaded at above the 0.74 level. Four items loaded at above the 0.5 level on oblique Factor 4. This was the only factor to have items from Same and Opposite groupings load on it. It should be noted that item o loaded at above the 0.5 level on Factor 1 as well as Factor 4. This factor could be labelled *Attraction*. It should also be noted here that this factor measured the respondents' reactions to other (attractive and unattractive) people finding *them* attractive and as such it was not overly surprising that it

emerged as a separate factor from the more spontaneous, inherent responses typically associated with sexual orientation responsiveness. Interestingly, this factor did not align with the Receiving Contact cluster of items with which it could be linked conceptually.

The following table shows how the factors identified above intercorrelate:

Table 170. Component Correlation Matrix

Component	1	2	3	4
1	1.000	.138	-.086	.264
2	.138	1.000	-.014	.118
3	-.086	-.014	1.000	.149
4	.264	.118	.149	1.000

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.

No particularly strong intercorrelations were noted, the strongest correlation being between Factors 1 and 4 (.26), which share an item.

Psych 3 Students Only

Table 171. Suitability of Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.755
Bartlett's Test of Sphericity	Approx. Chi-Square	1114.884
	df	120
	Sig.	.000

a Only cases for which GROUP = 2 are used in the analysis phase.

The KMO measure of sampling adequacy is large (0.76) and therefore indicates that a factor analysis of the variables would be appropriate. Bartlett's test of sphericity Chi-square(120) = 1114.88, $p < 0.0001$ strongly implies that the correlations among the variables are significantly different to zero and it is therefore concluded that the strength of the relationship among variables is strong thus also indicating the

appropriateness of proceeding a factor analysis.

Basic descriptive information on all 16 items – as responded to by the Psych 3 Group – upon which the factor analysis was performed is provided in the following table:

Table 172. Descriptive Statistics: Means and Standard Deviations (N = 93)

	Mean	Std. Deviation
A	2.226	1.134
B	5.430	1.506
c	*5.688*	*1.800*
d	*6.344*	*1.238*
E	2.000	1.225
F	4.710	1.943
g	*5.774*	*1.825*
h	*6.280*	*1.354*
I	2.344	1.395
J	5.097	1.824
k	*5.946*	*1.753*
l	*6.376*	*1.326*
M	1.505	.816
N	3.129	1.534
o	*4.690*	*2.074*
p	*5.312*	*1.888*

a Only cases for which GROUP = 2 are used in the analysis phase.

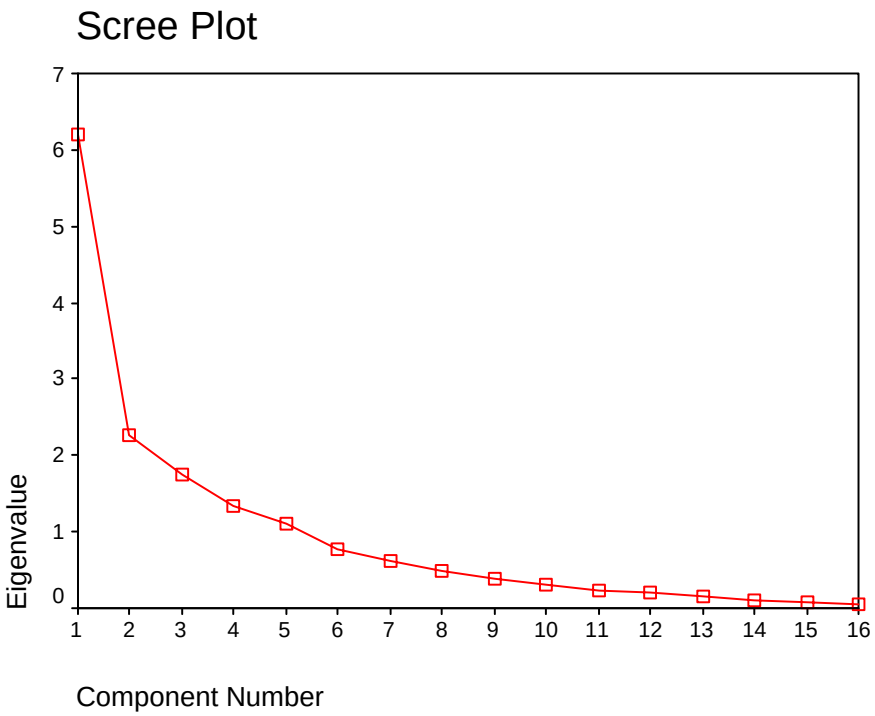
Five factors, accounting for 79% of the variation in the data, were identified using the Kaiser criteria which stipulate that only factors with an eigenvalue greater than 1 be considered, as evident in the following table:

Table 173. Eigenvalues

Eigenvalues Extraction: Principal components			
	Eigenvalue	**% Total**	**Cumulative**
1	6.196	38.726	38.726
2	2.259	14.119	52.845
3	1.739	10.866	63.711
4	1.328	8.301	72.012
5	1.099	6.867	78.879

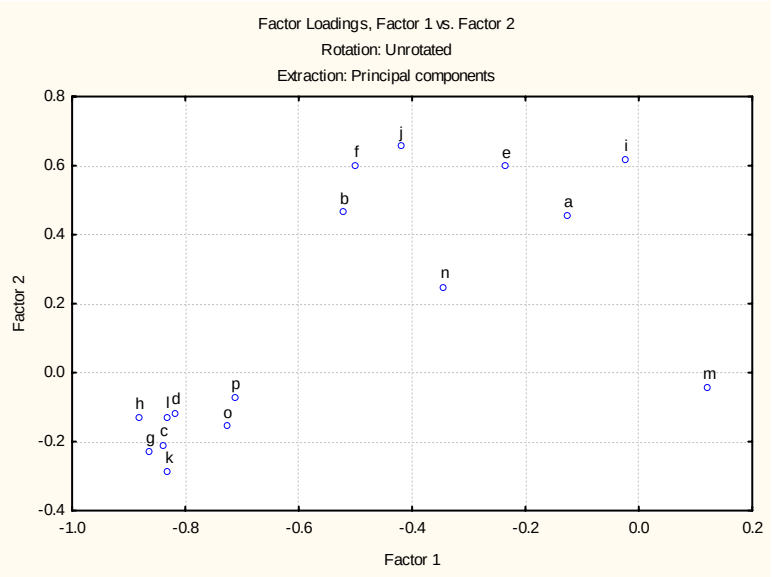
A root curve analysis (stop at the eigenvalue associated with the point of inflection of a scree plot of the eigenvalues from largest to smallest) (Weinrich et al., 1993) confirmed that the number of factors to be considered should be four.

Figure 17. Scree Plot of Eigenvalues: Psych 3's Only



Unrotated loadings show 2 main factors: Same Sex Responsiveness and Opposite Sex Responsiveness as depicted in the graph below:

Figure 18. Factor Loadings Graph: Psych 3's Only



The table below provides the factor loadings for each item for the unrotated orthogonal solution (principal components). The figures in bold represent the highest factor loading per item.

Table 174. Orthogonal Factor Loadings (Unrotated)

	Component				
	1	2	3	4	5
A	.125	.454	**.705**	-.053	-.084
B	**.520**	.461	-.254	-.248	-.063
c	***.837***	*-.213*	*.203*	*-.092*	*.208*
d	***.817***	*-.120*	*.018*	*-.225*	*.165*
E	.234	.595	**.603**	.013	-.129
F	.498	**.598**	-.395	.128	.149
g	***.861***	*-.233*	*.176*	*-.069*	*.176*
h	***.881***	*-.134*	*-.127*	*-.062*	*.058*
I	.022	**.614**	.310	-.082	.292
J	.419	**.653**	-.464	-.112	-.012
k	***.830***	*-.290*	*.059*	*-.071*	*.154*
l	***.831***	*-.131*	*-.118*	*-.150*	*.080*
M	-.124	-.046	.195	.608	**.682**
N	.343	.246	-.330	**.717**	-.051
o	***.726***	*-.158*	*.302*	*.354*	*-.380*
p	***.712***	*-.074*	*.041*	*.352*	*-.464*

From the preceding table it is evident that all the Same Sex items load heavily (above .71) on Factor 1. It was decided to name this factor *Same Sex Responsiveness*. Somewhat unusually item b, an Opposite Sex item, also loads most heavily for Factor 1 for the Psych 3's. It also loads at 0.46 for Factor 2. Four items load at above the 0.59 level for Factor 2 (three of these loading more heavily for this factor than any other). Another two factors, if rounded off to the first decimal place would also load for Factor 2 at the 0.5 level – including item b referred to above. This factor was named *Opposite Sex Responsiveness*. The two items which loaded on Factor 3 resulted in this factor being named *Attractive Opposite Sex*. Factors 4 and 5 each contained one item and these were both in the Attraction grouping of items, one dealing with Attractive people and the other with Unattractive people.

The oblique solution factor loadings for the Psych 3 group are presented in the following table and as with the unrotated orthogonal solution five factors emerged:

Table 175. Oblique Factor Loadings

	Component				
	1	2	3	4	5
A	-.031	-.097	**.857**	.089	-.016
B	.198	**.652**	.107	-.055	-.264
c	***.935***	*-.082*	*.085*	*.004*	*.122*
d	***.874***	*.113*	*-.004*	*-.091*	*-.023*
E	-.088	.096	**.859**	.191	-.031
F	.078	**.842**	.033	.050	.120
g	***.927***	*-.078*	*.053*	*.052*	*.107*
h	***.766***	*.192*	*-.130*	*.130*	*-.029*
I	.012	.305	**.598**	-.299	.212
J	-.024	**.912**	.029	-.040	-.168
k	***.897***	*-.053*	*-.076*	*.055*	*.073*
l	***.779***	*.185*	*-.121*	*.030*	*-.063*
M	.156	-.164	.048	-.080	**.961**
N	-.243	.437	-.149	**.657**	.348
o	*.270*	*-.216*	*.200*	***.801***	*-.057*
p	*.123*	*.010*	*.039*	***.839***	*-.163*

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.
a Rotation converged in 8 iterations.
b Only cases for which GROUP = 2 are used in the analysis phase.

Six of the eight Same Sex items loaded on this factor at above the 0.77 level. Once again Factor 1 was named *Same Sex Responsiveness*. The three items that loaded above the 0.65 level on Factor 2 resulted in this being named *Unattractive Opposite Sex.* The three items that loaded above the 0.59 level on Factor 3 resulted in this being named *Attractive Opposite Sex.* The remaining factors were comprised of only Attraction dimension items and were named *Attraction* (Factor 4) and *Response to Attractive Opposite Sex* (Factor 5).

The following table shows how the factors identified above intercorrelate:

Table 176. Component Correlation Matrix

Component	1	2	3	4	5
1	1.000	.248	.100	**.473**	-.188
2	.248	1.000	.101	.235	.034
3	.100	.101	1.000	.019	-.028
4	.473	.235	.019	1.000	.024
5	-.188	.034	-.028	.024	1.000

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.
a Only cases for which GROUP = 2 are used in the analysis phase.

There is a correlation of 0.47 between Factor 1 *Same Sex Responsiveness* and Factor 4 *Attraction.* A smaller positive correlation between Factor 1 *Same Sex Responsiveness* and Factor 2 *Unattractive Opposite Sex* of 0.25 was also found to exist for the Psych 3 group.

Psych 1 Students Only

Table 177. Suitability of Factor Analysis

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.799
Bartlett's Test of Sphericity	Approx. Chi-Square	4478.603
	Df	120
	Sig.	.000

a Only cases for which GROUP = 3 are used in the analysis phase.

The KMO measure of sampling adequacy is large (0.80) and therefore indicates that

a factor analysis of the variables would be appropriate. Bartlett's test of sphericity Chi-square(120) = 4478.60, $p < 0.0001$ strongly implies that the correlations among the variables are significantly different to zero and it is therefore concluded that the strength of the relationship among variables is strong thus also indicating the appropriateness of proceeding a factor analysis.

Basic descriptive information on all 16 items upon which the factor analysis was performed is provided in the following table:

Table 178. Descriptive Statistics: Means and Standard Deviations (N = 494)

	Mean	Std. Deviation
A	2.190	1.342
B	5.462	1.413
c	*5.933*	*1.746*
d	*6.682*	*.875*
E	1.889	1.359
F	4.798	1.814
g	*5.984*	*1.789*
h	*6.628*	*.988*
I	2.229	1.475
J	5.283	1.644
k	*6.126*	*1.657*
l	*6.725*	*.768*
M	1.474	.980
N	3.316	1.548
o	*5.105*	*1.953*
p	*5.804*	*1.556*

a Only cases for which GROUP = 3 are used in the analysis phase.

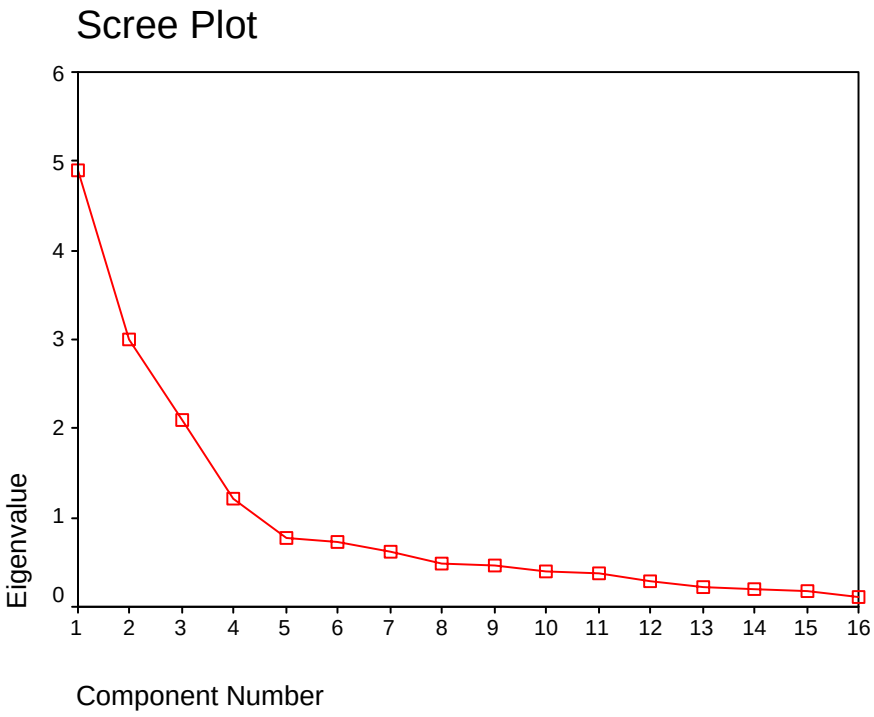
Four factors, accounting for 70% of the variation in the data, were identified using the Kaiser criteria which stipulate that only factors with an eigenvalue greater than 1 be considered, as evident in the following table:

Table 179. Eigenvalues

Eigenvalues Extraction: Principal components				
	Eigenvalue	**% Total**	**Cumulative**	**Cumulative**
1	4.891768	30.57355	4.89177	30.57355
2	2.995959	18.72474	7.88773	49.29829
3	2.106265	13.16416	9.99399	62.46245
4	1.204263	7.52665	11.19826	69.98910

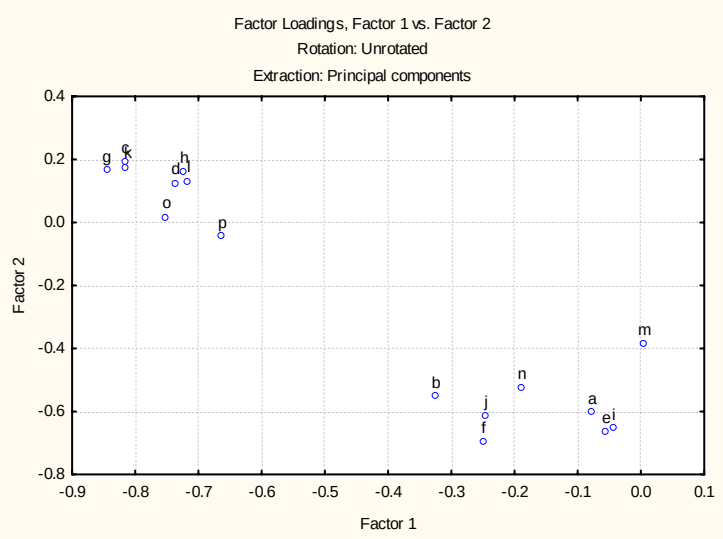
A root curve analysis (stop at the eigenvalue associated with the point of inflection of a scree plot of the eigenvalues from largest to smallest) (Weinrich et al., 1993) confirmed that the number of factors to be considered should be four.

Figure 19. Scree Plot of Eigenvalues: Psych 1's Only



Unrotated loadings show 2 main factors: Same Sex Responsiveness and Opposite Sex Responsiveness as depicted in the graph below:

Figure 20. Factor Loadings Graph: Psych 1's Only



The table below provides the factor loadings for each item for the unrotated orthogonal solution (principal components). The figures in bold represent the highest factor loading per item.

Table 180. Orthogonal Factor Loadings (Unrotated)

	Component			
	1	2	3	4
A	.077	**.606**	.406	-.159
B	.325	**.555**	-.439	-.157
c	***.816***	*-.192*	*.294*	*-.095*
d	***.737***	*-.124*	*-.161*	*-.211*
E	.055	**.666**	.561	-.161
F	.249	**.698**	-.463	-.083
g	***.844***	*-.162*	*.270*	*-.129*
h	***.723***	*-.157*	*-.250*	*-.132*
I	.042	**.656**	.464	-.250
J	.244	**.617**	-.514	-.119
k	***.813***	*-.174*	*.256*	*-.161*
l	***.715***	*-.129*	*-.283*	*-.095*
M	-.005	.386	**.440**	.400
N	.189	.527	-.297	**.540**
o	***.751***	*-.016*	*.257*	*.397*
p	***.663***	*.047*	*-.010*	*.559*

Extraction Method: Principal Component Analysis.
a 4 components extracted.
b Only cases for which GROUP = 3 are used in the analysis phase.

As with the entire sample (sans Scholars) once again all the Same Sex items (*italics*) load most heavily on Factor 1 (all above the 0.66 level) which as a result is called *Same Sex Responsiveness.* Seven of the eight Opposite Sex items (UPPER CASE) load on Factor 2 at a level above 0.52 and as a result this is named *Opposite Sex Responsiveness.* No items loaded most heavily on Factor 3 above the 0.5 level – only item m loaded most heavily here at a 0.44 level and consequently this factor was thought to have to do with *Response to Attractive Opposite Sex*. Item n loaded most heavily on Factor 5 at above the 0.5 level and this was consequently named *Response to Unattractive Opposite Sex.*

The oblique solution factor loadings for the Psych 1 group are presented in the following table:

Table 181. Oblique Factor Loadings

	Component			
	1	2	3	4
A	.051	.161	**.738**	-.005
B	.121	**.769**	.121	-.004
c	***.878***	*-.165*	*.144*	*.049*
d	***.752***	*.213*	*-.088*	*-.096*
E	.045	.088	**.885**	.008
F	-.023	**.849**	.166	.083
g	***.906***	*-.115*	*.160*	*.024*
h	***.698***	*.234*	*-.203*	*-.029*
I	.058	.167	**.844**	-.092
J	.001	**.840**	.092	.026
k	***.893***	*-.112*	*.154*	*-.018*
l	***.660***	*.266*	*-.222*	*.011*
M	-.202	-.149	.403	**.507**
N	-.272	.468	-.068	**.681**
o	*.548*	*-.147*	*.041*	***.572***
p	*.329*	*.030*	*-.170*	***.718***

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.
a Rotation converged in 6 iterations.
b Only cases for which GROUP = 3 are used in the analysis phase.

The items divide neatly into four oblique factors for the Psych 1 group. Six load at above the 0.66 level on Factor 1 which is once again named *Same Sex*

Responsiveness. Three items load at above the 0.76 level on Factor 2 which is once again named *Unattractive Opposite Sex Responsiveness.* Three items load at above the 0.73 level on Factor 3 which is once again named A*ttractive Opposite Sex Responsiveness.* Finally, all four Attraction items load most heavily and above the 0.5 level on Factor 4, named *Attraction.*

The following table shows how the factors identified for the Psych 1 group intercorrelate:

Table 182. Component Correlation Matrix

Component	1	2	3	4
1	1.000	.083	-.093	.265
2	.083	1.000	-.011	.108
3	-.093	-.011	1.000	.169
4	.265	.108	.169	1.000

Extraction Method: Principal Component Analysis. Rotation Method: Promax with Kaiser Normalization.
a Only cases for which GROUP = 3 are used in the analysis phase.

The strongest correlation is once again between Factor 1 *Same Sex Responsiveness* and Factor 4 *Attraction.*

Reliability of the Four Oblique Factors

The internal consistency reliability of the four factors which emerged in the oblique rotation factor analysis of the entire adolescent sample was obtained by calculating *alpha* coefficients for each of these factors. The tables below provide the descriptive statistics for each of these factors along with their Cronbach *alpha* coefficients.

Factor 1- Same Sex Responsiveness

Table 183. Descriptive Statistics – Factor 1

	Item	Mean	Std Dev	Cases
1.	c	2.11	1.77	595
2.	d	1.37	.95	595
3.	g	2.05	1.80	595
4.	h	1.42	1.06	595
5.	k	1.90	1.69	595
6.	l	1.33	.88	595

Item Means

Mean	Minimum	Maximum	Range	Max/Min	Variance
1.6992	1.3277	2.1092	.7815	1.5886	.1319

Item Variances

Mean	Minimum	Maximum	Range	Max/Min	Variance
2.0002	.7796	3.2564	2.4767	4.1769	1.4066

Table 184. Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Item c	8.0857	28.6172	.8132	.7768	.8620
Item d	8.8235	38.3510	.6706	.5524	.8880
Item g	8.1412	27.5322	.8612	.8296	.8530
Item h	8.7714	37.3315	.6710	.6383	.8854
Item k	8.2857	29.3155	.8187	.7275	.8594
Item l	8.8672	39.2399	.6398	.5822	.8925

Reliability Coefficients 6 items

Alpha = .8942

Factor 2 – Unattractive Opposite Sex Responsiveness

Table 185. Descriptive Statistics – Factor 2

	Item	Mean	Std Dev	Cases
1.	b	2.5355	1.4383	633
2.	f	3.1722	1.8316	633
3.	j	2.7156	1.6777	633

Item Means

Mean	Minimum	Maximum	Range	Max/Min	Variance
2.8078	2.5355	3.1722	.6367	1.2511	.1077

Item Variances

Mean	Minimum	Maximum	Range	Max/Min	Variance
2.7460	2.0688	3.3548	1.2860	1.6217	.4170

Table 186. Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Item c	5.8878	10.3909	.6082	.3717	.8125
Item d	5.2512	7.4700	.7265	.5344	.6926
Item g	5.7077	8.4762	.6969	.5005	.7203

Reliability Coefficients 3 items

Alpha = .8172

Factor 3 - Attractive Opposite Sex Responsiveness

Table 187. Descriptive Statistics

	Item	Mean	Std Dev	Cases
1.	a	5.7737	1.3219	632
2.	e	6.0807	1.3493	632
3.	i	5.7658	1.4645	632

Item Means

Mean	Minimum	Maximum	Range	Max/Min	Variance
5.8734	5.7658	6.0807	.3149	1.0546	.0322

Item Variances

Mean	Minimum	Maximum	Range	Max/Min	Variance
1.9043	1.7475	2.1448	.3973	1.2274	.0447

Table 188. Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Item a	11.8465	6.6594	.5436	.3334	**.8091**
Item e	11.5396	5.5484	.7467	.5632	.5970
Item i	11.8544	5.6206	.6265	.4665	.7303

Reliability Coefficients 3 items

Alpha = .7927

The omission of item a would have improved the reliability marginally.

Factor 4 – Attraction

Table 189. Descriptive Statistics

	Item	Mean	Std Dev	Cases
1.	m	6.5209	.9516	599
2.	n	4.7078	1.5485	599
3.	o	2.9466	1.9783	599
4.	p	2.2588	1.6115	599

Item Means

Mean	Minimum	Maximum	Range	Max/Min	Variance
4.1085	2.2588	6.5209	4.2621	2.8869	3.6501

Item Variances

Mean	Minimum	Maximum	Range	Max/Min	Variance
2.4534	.9055	3.9135	3.0080	4.3220	1.5172

Table 190. Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
Item m	9.9132	16.4540	.1369	.0700	**.6879**
Item n	11.7262	12.6774	.3030	.1694	.6226
Item o	13.4875	8.2268	.5531	.5866	.4242
Item p	14.1753	9.2886	.6649	.6196	.3346

Reliability Coefficients 4 items

Alpha = .6228

The omission of item m would have improved the reliability marginally.

Demographic Effects on the Four Oblique Factors

Group Comparison

Basic descriptive statistics are provided for each of the sample sub-groups per oblique factor in the table below:

Table 191. Descriptive Statistics

	Group	N	Mean	Std. Deviation
FACTOR1	Psych 3	94	4.9375	1.14365
	Psych 1	501	5.1466	.93783
FACTOR 2	Psych 3	95	4.1443	1.23131
	Psych 1	538	4.2593	1.15671
FACTOR 3	Psych 3	98	1.7776	.82343
	Psych 1	534	1.7173	.97133
FACTOR 4	Psych 3	94	2.2738	.72307
	Psych 1	505	2.4388	.64837

From the above table it is evident that the variability in responses, as evidenced by the standard deviations, was generally smallest for Factor 4 (*Attraction*). The largest variability in responses was evident in Factor 2 (*Unattractive Opposite Sex Responsiveness*).

Table 192. Test of Homogeneity of Variances and *t*-tests

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference
FACTOR 1	Equal variances assumed	6.939	**.009**	-1.912	593	.056	-.2091
	Equal variances not assumed			-1.670	117.599	.097	-.2091
FACTOR 2	Equal variances assumed	1.280	.258	-.884	631	.377	-.1150
	Equal variances not assumed			-.847	125.047	.399	-.1150
FACTOR 3	Equal variances assumed	3.171	.075	.578	630	.564	.0603
	Equal variances not assumed			.647	151.074	.519	.0603
FACTOR 4	Equal variances assumed	1.439	.231	-2.224	597	.027	-.1650
	Equal variances not assumed			-2.064	122.416	.041	-.1650

The above table shows that Factor 1 (*Same Sex Responsiveness*) lacked homogeneity of variances. The remaining three factors met this criterion however.

Table 193. Descriptive Statistics (Entire Sample)

Basic descriptive statistics are provided for the sample as a whole per oblique factor in the table below:

	N	Mean	Std. Deviation	Minimum	Maximum
FACTOR 1	595	5.1136	.97516	.94	5.71
FACTOR 2	633	4.2420	1.16792	.82	5.73
FACTOR 3	632	1.7266	.94956	.81	5.70
FACTOR 4	599	2.4129	.66274	.61	4.27

The Mann-Whitney Test was performed and the results are given in the table below:

Table 194. Non-Parametric Tests

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
Mann-Whitney U	20814.500	24161.500	22956.500	20908.500
Z	-1.985	-.850	-1.940	-1.835
Asymp. Sig. (2-tailed)	**.047**	.395	.052	.066

a Grouping Variable: GROUP

Factor 1 was found to be significant at the $p < 0.05$ level suggesting that the groups differed significantly with regard to Same Sex Responsiveness.

Gender Comparison

Basic descriptive statistics are provided for each gender per oblique factor below:

Table 195. Descriptive Statistics

	GENDER	N	Mean	Std. Deviation
FACTOR 1	Male	183	5.4204	.73596
	Female	412	4.9773	1.03632
FACTOR 2	Male	207	3.9389	1.16091
	Female	426	4.3893	1.14397
FACTOR 3	Male	208	1.4545	.90358
	Female	424	1.8601	.94404
FACTOR 4	Male	184	2.5633	.63051
	Female	415	2.3463	.66649

Male responses on three of the four factors showed slightly less variability than those of females as evidenced by the standard deviations obtained for Factors 1, 3 and 4.

Table 196. Test of homogeneity of Variances and *t*-tests

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
FACTOR 1	Equal variances assumed	59.997	**.000**	5.228	593	.000	.4432
	Equal variances not assumed			5.940	479.167	.000	.4432
FACTOR 2	Equal variances assumed	.114	.736	-4.625	631	.000	-.4504
	Equal variances not assumed			-4.601	402.794	.000	-.4504
FACTOR 3	Equal variances assumed	2.899	.089	-5.147	630	.000	-.4056
	Equal variances not assumed			-5.225	427.987	.000	-.4056
FACTOR 4	Equal variances assumed	1.500	.221	3.737	597	.000	.2170
	Equal variances not assumed			3.818	369.189	.000	.2170

Factor 1 failed the test of homogeneity of variances between males and females.

Basic descriptive statistics are provided for the sample as a whole per oblique factor in the table below:

Table 197. Descriptive Statistics (Entire Sample)

	N	Mean	Std. Deviation	Minimum	Maximum
FACTOR 1	595	5.1136	.97516	.94	5.71
FACTOR 2	633	4.2420	1.16792	.82	5.73
FACTOR 3	632	1.7266	.94956	.81	5.70
FACTOR 4	599	2.4129	.66274	.61	4.27

The Mann-Whitney Test was performed and results are given in the following table:

Table 198. Non-parametric Tests

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
Mann-Whitney U	26841.000	33862.000	27525.000	30878.000
Z	-6.234	-4.749	-7.716	-3.738
Asymp. Sig. (2-tailed)	.000	.000	.000	.000

a Grouping Variable: GENDER

The results confirmed the results of the parametric tests.

Identity Comparison (categories 1, 6 and 7 only)

Identity has 7 categories but only categories 1, 6 and 7 had sufficient sample sizes for non-parametric comparison tests. These categories comprise the following three descriptions based on the Kinsey Scale: 1 = completely homosexual; 6 = mainly heterosexual, occasionally homosexual; and 7 = completely heterosexual.

Basic descriptive statistics are provided for each of the three Kinsey categories (with sufficient sample sizes) per oblique factor in the table below:

Table 199. Descriptive Statistics

	Identity	N	Mean	Std. Deviation
FACTOR 1	Completely homosexual	7	3.6983	1.80932
	Mainly heterosexual	37	3.4096	.97228
	Completely heterosexual	538	5.2868	.78118
	Total	582	5.1484	.94447
FACTOR 2	Completely homosexual	7	4.7455	.94766
	Mainly heterosexual	37	4.0709	1.27602
	Completely heterosexual	575	4.2482	1.16253
	Total	619	4.2433	1.16768
FACTOR 3	Completely homosexual	7	3.4432	1.71575
	Mainly heterosexual	37	1.5439	1.04340
	Completely heterosexual	575	1.7147	.91415
	Total	619	1.7241	.95062
FACTOR 4	Completely homosexual	7	2.2364	.65671
	Mainly heterosexual	37	1.8104	.71894
	Completely heterosexual	542	2.4687	.63394
	Total	586	2.4244	.65877

From the above table it is evident that the group self-labelling as “Completely Homosexual” had the greatest variability in responses in two of the factors.

Homogeneity of variances (or lack thereof) had to be determined because ANOVAs require homogeneity of variances.

Table 200. Test of Homogeneity of Variances and *t*-tests

	Levene Statistic	df1	df2	Sig.
FACTOR 1	14.091	2	579	**.000**
FACTOR 2	2.839	2	616	.059
FACTOR 3	6.572	2	616	**.001**
FACTOR 4	.926	2	583	.397

From the above table it is evident that Factor 1 and Factor 3 lacked homogeneity of variances. The remaining two factors met this requirement, however, and an ANOVA was therefore performed.

Oneway ANOVA of Oblique Factors was used to determine whether there was a reliable difference between any pair of means in the three sexual orientation self-label groups identified above.

Table 201. Oneway ANOVA of Oblique Factors

		Sum of Squares	df	Mean Square	F	Sig.
FACTOR 1	Between Groups	136.895	2	68.447	103.917	**.000**
	Within Groups	381.371	579	.659		
	Total	518.266	581			
FACTOR 2	Between Groups	2.879	2	1.439	1.056	.349
	Within Groups	839.749	616	1.363		
	Total	842.628	618			
FACTOR 3	Between Groups	21.939	2	10.969	12.594	**.000**
	Within Groups	536.535	616	.871		
	Total	558.474	618			
FACTOR 4	Between Groups	15.261	2	7.630	18.643	**.000**
	Within Groups	238.614	583	.409		
	Total	253.874	585			

The results of the ANOVA suggested that responses to Factors 1, 3 and 4 were significantly different between the three specified sexual orientation category groups.

Multiple Comparisons (Scheffé Tests) were performed to ascertain exactly which of the sexual orientation self-identification label groups were different from each other:

Table 202. Post Hoc Tests

Dependent Variable	(I) IDENT	(J) IDENT	Mean Diff.	Std. Error	Sig.
FACTOR 1	**Completely homosexual**	Mainly heterosexual	.2887	.33451	.689
		Completely heterosexual	-1.5886(*)	.30874	**.000**
	Mainly heterosexual	Completely homosexual	-.2887	.33451	.689
		Completely heterosexual	-1.8772(*)	.13794	**.000**
	Completely heterosexual	**Completely homosexual**	1.5886(*)	.30874	**.000**
		Mainly heterosexual	1.8772(*)	.13794	**.000**
FACTOR 2	Completely homosexual	Mainly heterosexual	.6746	.48124	.375
		Completely heterosexual	.4972	.44398	.534
	Mainly heterosexual	Completely heterosexual	-.6746	.48124	.375
		Completely heterosexual	-.1773	.19803	.670
	Completely heterosexual	Completely homosexual	-.4972	.44398	.534
		Mainly heterosexual	.1773	.19803	.670
FACTOR 3	**Completely homosexual**	**Mainly heterosexual**	1.8993(*)	.38467	**.000**
		Completely heterosexual	1.7284(*)	.35488	**.000**
	Mainly heterosexual	**Completely homosexual**	-1.8993(*)	.38467	**.000**
		Completely heterosexual	-.1708	.15829	.559
	Completely heterosexual	**Completely homosexual**	-1.7284(*)	.35488	**.000**
		Mainly heterosexual	.1708	.15829	.559
FACTOR 4	Completely homosexual	Mainly heterosexual	.4260	.26369	.272
		Completely heterosexual	-.2323	.24336	.634
	Mainly heterosexual	Completely homosexual	-.4260	.26369	.272
		Completely heterosexual	-.6583(*)	.10871	**.000**
	Completely heterosexual	Completely homosexual	.2323	.24336	.634
		Mainly heterosexual	.6583(*)	.10871	**.000**

The mean difference is significant at the .05 level.

From the above table it is evident that with regard to Factor 1 the “Completely Homosexual” and “Completely Heterosexual” groups’ responses were significantly different from each other. The “Mainly Heterosexual, Occasionally Homosexual” and “Completely Heterosexual” groups’ responses were also significantly different to each other.

Factor 2 was not responded to significantly differently by any of these groups. Factor 3 responses were significantly different between the “Completely Homosexual” group and the other two groups, which were not significantly different from each other. Only the “Mainly Heterosexual, Occasionally Homosexual” and “Completely Heterosexual” groups’ responses were significantly different for Factor 4. Means for groups in homogeneous subsets are displayed with respect to Factors 1, 3 and 4 in the tables below:

Table 203. Homogeneous Subsets – Factor 1

	IDENTITY	N	Subset for alpha = .05	
			1	2
Scheffe	Mainly heterosexual	37	3.4096	
	Completely homosexual	7	3.6983	
	Completely heterosexual	538		5.2868
	Sig.		.576	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 17.468.
b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From the above table it is evident that the responses of the “Completely Homosexual” and “Mainly Heterosexual, Occasionally Homosexual” groups were significantly different from those of the “Completely Heterosexual” group with regard to Factor 1.

Table 204. Homogeneous Subsets – Factor 3

	IDENTITY	N	Subset for alpha = .05	
			1	2
Scheffe	Mainly heterosexual	37	1.5439	
	Completely heterosexual	575	1.7147	
	Completely homosexual	7		3.4432
	Sig.		.864	1.000

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 17.480.
b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From the above table it is evident that the responses of the “Mainly Heterosexual, Occasionally Homosexual” and “Completely Heterosexual” groups were significantly different from those of the “Completely Homosexual” group with regard to Factor 2.

Table 205. Homogeneous Subsets – Factor 4

	IDENTITY	N	Subset for alpha = .05	
			1	2
Scheffe	Mainly heterosexual	37	1.8104	
	Completely homosexual	7	2.2364	2.2364
	Completely heterosexual	542		2.4687
	Sig.		.145	.563

Means for groups in homogeneous subsets are displayed.
a Uses Harmonic Mean Sample Size = 17.469.
b The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

From the above table it is evident that the responses of the “Mainly Heterosexual, Occasionally Homosexual” and the “Completely Heterosexual” group were significantly different with regard to Factor 4.

Basic descriptive statistics are provided for the sample as a whole per oblique factor in the table below:

Table 206. Descriptive Statistics (Entire Sample)

	N	Mean	Std. Deviation	Minimum	Maximum
FACTOR 1	595	5.1136	.97516	.94	5.71
FACTOR 2	633	4.2420	1.16792	.82	5.73
FACTOR 3	632	1.7266	.94956	.81	5.70
FACTOR 4	599	2.4129	.66274	.61	4.27

The Kruskal-Wallis Test was performed because of the lack of homogeneity of variances possibly affecting the appropriateness of the ANOVA with regard to Factors 1 and 3 as discussed above.

Table 207. Non-parametric Tests

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
Chi-Square	100.717	1.427	15.410	26.741
Df	2	2	2	2
Asymp. Sig.	.000	.490	.000	.000

Grouping Variable: IDENTITY

The results confirm the findings of the ANOVA in that Factors 1, 3 and 4 were found to have significant differences in responses between the three identified sexual orientation self-labelling groups.

Age Comparison

Basic descriptive statistics are provided for each of the three Kinsey categories (with sufficient sample sizes) per oblique factor in the table below:

Table 208. Descriptive Statistics

		N	Mean	Std. Deviation
FACTOR 1	17	24	5.1165	.78310
	18	181	5.1261	.96484
	19	165	5.1914	.93505
	20	120	5.0510	1.03114
	21	69	5.0900	1.04045
	22	18	4.7098	1.13927
	23	17	5.1498	.89257
	Total	594	5.1125	.97567
FACTOR 2	17	25	4.4707	1.17883
	18	191	4.3401	1.16324
	19	174	4.2541	1.12197
	20	128	4.2432	1.17461
	21	74	3.9562	1.29895
	22	20	4.1200	.97830
	23	19	4.0086	1.18328
	Total	631	4.2399	1.16874
FACTOR 3	17	25	1.5614	.90179
	18	187	1.7950	1.07838
	19	174	1.7149	.92478
	20	127	1.6887	.86307
	21	77	1.7116	.82997
	22	20	1.7406	1.00053
	23	20	1.5377	.72945
	Total	630	1.7221	.94490
FACTOR 4	17	24	2.4246	.62717
	18	182	2.4669	.63637
	19	167	2.4363	.62354
	20	121	2.3876	.72346
	21	69	2.2885	.69160
	22	18	2.4607	.80212
	23	17	2.2022	.65187
	Total	598	2.4123	.66312

Homogeneity of variances (or lack thereof) had to be determined because ANOVAs require homogeneity of variances.

Table 209. Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
FACTOR 1	1.128	6	587	.344
FACTOR 2	1.912	6	624	.077
FACTOR 3	1.394	6	623	.215
FACTOR 4	.806	6	591	.565

None of the factors were found to lack homogeneity of the variances and as a result an ANOVA was performed.

Oneway ANOVA of Oblique Factors was used to determine whether there was a significant difference between any pair of means in the seven identified age groups.

Table 210. Oneway ANOVA using Oblique Factors

		Sum of Squares	Df	Mean Square	F	Sig.
FACTOR 1	Between Groups	4.491	6	.749	.785	.582
	Within Groups	560.008	587	.954		
	Total	564.499	593			
FACTOR 2	Between Groups	10.543	6	1.757	1.290	.260
	Within Groups	850.001	624	1.362		
	Total	860.544	630			
FACTOR 3	Between Groups	2.485	6	.414	.461	.837
	Within Groups	559.108	623	.897		
	Total	561.592	629			
FACTOR 4	Between Groups	2.565	6	.428	.972	.443
	Within Groups	259.955	591	.440		
	Total	262.520	597			

The results of the ANOVA suggested that responses did not differ significantly between the different groups for any of the four oblique factors.

Basic descriptive statistics are provided for the sample as a whole per oblique factor in the table below:

Table 211. Descriptive Statistics (Entire Sample)

	N	Mean	Std. Deviation	Minimum	Maximum
FACTOR 1	595	5.1136	.97516	.94	5.71
FACTOR 2	633	4.2420	1.16792	.82	5.73
FACTOR 3	632	1.7266	.94956	.81	5.70
FACTOR 4	599	2.4129	.66274	.61	4.27

The Kruskal-Wallis Test was performed and the following table displays the results:

Table 212. Non-Parametric Tests

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4
Chi-Square	5.474	7.917	2.028	5.489
Df	6	6	6	6
Asymp. Sig.	.485	.244	.917	.483

Grouping Variable: AGE

As with the ANOVA no significant age effect was found to exist between the responses to the four oblique factors.

CHAPTER 10

DISCUSSION

The research undertaken aimed at contributing towards the process of the development of an operational definition of sexual orientation which could serve as a reliable and valid measure of this construct in adolescents.

The process involved:

(1) the development of two measures of sexual responsiveness
(2) the examination of their psychometric properties (reliability, validity)
(3) the exploration of how the respondents differed in terms of their responses.

Development of the measures

The first (32 item) questionnaire could be seen to be an attempt to combine the *multidimensional* strength of the Klein Sexual Orientation Grid (KSOG) with the Sell Scale of Sexual Orientation's (SSSO) strength of measuring both intensity and frequency of sexual responsiveness to each sex *independently*. It focuses on four of the KSOG's seven dimensions – Fantasy, Attraction, Contact and Emotion. It taps for both lifetime and past month time frames whereas the SSSO focuses on the last year only and the KSOG focuses on the last year and lifetime previous to the last year. It also taps both frequency and *intensity* of Contact whereas the SSSO only measures frequency of this dimension. This questionnaire resulted from previous research on a lengthier questionnaire (48 items) which suggested that items relating to a future (or ideal) sexual orientation, as included in the KSOG, should be omitted (Heath, 2000).

The second (16 item) questionnaire also measures sexual responsiveness towards each sex independently but adds the as yet unexplored aspects of repulsion (as opposed to attraction) and of passive or receptive (versus active or performing) poles of sexual responsiveness. It only measures intensity – not frequency – of responsiveness. It focuses on only three of the seven KSOG dimensions – Fantasy,

Attraction and Contact. Time frames are not tapped or specified in this questionnaire which is more speculative and less convincing in terms of its theoretical groundedness than the first one.

Examination of psychometric properties

Unfortunately not much psychometric data is available in the published research to date on the existing measures of sexual orientation with which the findings of the current research can be compared. It seems that the most researched measurement tool of sexual orientation is the multidimensional Klein Sexual Orientation Grid (KSOG) which differs fundamentally from the current measures in that it measures sexual orientation on a single continuum as opposed to measuring same and opposite sex responsiveness independently. No reliability and validity statistics were available for the Sell Scale of Sexual Orientation (SSSO), an arguably more sophisticated tool in terms of its theoretical underpinnings. The current research on the measures developed, examined and applied in this study therefore serves to fill the existing research gap by providing theoretically well grounded tools to measure sexual orientation *along with* psychometric statistics indicating their usefulness within the field of sexual orientation research. Fortunately the results of the statistical analyses of both questionnaires were very encouraging.

Internal Consistency Reliability

With regard to internal consistency reliability, the first questionnaire's Cronbach *alpha* was 0.85 for all three adolescent sample sub-groups as well as for the combined group – meeting the Crano and Brewer (1973) criterion of 0.80 for an acceptable *alpha* coefficient for Likert-type items. All of the individual dimensions fell short of this stipulation, however these dimensions showed marked improvement with regard to the *alpha*s obtained for the entire sample when compared to those of the previous (48 item) questionnaire except for the Emotion dimension for which the *alpha* coefficient decreased from 0.78 to 0.6. The Fantasy dimension's *alpha* increased from 0.25 to 0.76; the Attraction dimension's *alpha* increased from 0.58 to 0.70 and the Contact dimension's *alpha* increased from 0.39 to 0.68. These do not fall far short of Crano and Brewer's (1973) standard. Possibly more significant, however, were the *alpha* coefficients which were obtained for the oblique factors

which emerged from the factor analysis. Factor 1's (Same Sex Responsiveness, 10 items) *alpha* was 0.93 while Factor 2's (Opposite Sex Responsiveness, 6 items) was 0.85 – both these main factors comfortably meeting the abovementioned stipulation. Lesser factors which emerged, Factor 3's (Previous Month's Same Sex Responsiveness, 4 items) *alpha* of 0.76 and Factor 4's (Previous Month's Opposite Sex Responsiveness, 3 items) of 0.75 only narrowly miss this level. Of significance for questionnaire development purposes was that only the omission of four items could have improved the internal consistency but the improvement would be marginal (at a third decimal place).

The second questionnaire (despite consisting of only 16 items) also satisfied the Crano and Brewer (1973) criterion in that an *alpha* of 0.82 was obtained for the entire sample group and of 0.87 and 0.81 for each of the two individual sample sub-groups which comprised it. Once again none of the proposed dimensions evidenced an *alpha* above 0.80 for the entire sample group (although this was achieved for the Contact dimension for one of the sub-groups). As with the previous questionnaire the two main oblique factors which emerged did attain the necessary level of internal consistency reliability as indicated by an *alpha* of 0.89 for Factor 1 (Same Sex Responsiveness) which consisted of 6 items and of 0.82 for Factor 2 (Unattractive Opposite Sex Responsiveness) which consisted of only 3 items. Factor 3 (Attractive Opposite Sex Responsiveness), consisting of only 3 items, only narrowly missed meeting the standard with an *alpha* of 0.79 while Factor 4's (Attraction, 3 items) *alpha* was only 0.62. Of significance for questionnaire development purposes was that only the omission of three items could have improved the internal consistency but the improvement would be marginal (at a third decimal place).

Validity

Factor analysis is viewed as a means of determining both external validity (Weinrich et al., 1993) and construct validity (Harty & Beall, 1984). The fact that similar factors emerged for all 3 sample sub-groups provides evidence of factorial invariance across groups which suggests that the factor structure of the measure is not sample dependent and can thus be considered to be relatively stable. This may not be as significant a finding as occurred in Weinrich et al.'s (1993) study examining the KSOG's factors, where their sample groups differed quite significantly in terms of

their sexual orientation make-up, however, it is thought that the three sample sub-groups are fairly disparate in terms of age, intelligence, and socio-economic background – particularly as the study was not limited to students only, in that it included scholars, and included both junior (mixed degree) and senior (typically social science degree) students.

The facts that two distinct factors did emerge in the entire group's unrotated orthogonal factor analysis of questionnaire 1 responses and that almost all items loaded on one of these two factors lends credence to the notion that Same Sex Responsiveness and Opposite Sex Responsiveness do exist as constructs, thus suggesting that questionnaire 1 does have construct validity.

To some extent this notion would be strengthened by the findings in the oblique factor analyses where essentially four main factors consistently emerged and all of these consisted entirely of items from either Same Sex or Opposite Sex dimensions – not both simultaneously. In addition to this the entire sample as well as each sub-group's 4 main oblique factors contained a factor named *Same Sex Responsiveness* and a factor named *Opposite Sex Responsiveness*. Two sub-groups as well as the entire sample also had a factor named *Opposite Sex Previous Month*.

For questionnaire 2 the unrotated orthogonal factors which emerged were not as consistent between sub-groups. The major factors to emerge were somewhat more diversely named across the sub-groups and also when these were compared to those of the entire sample used for this questionnaire. Different numbers of factors emerged between sub-groups as well. This could, therefore, suggest that questionnaire 2's external validity may be somewhat questionable.

The facts that two distinct main factors – Same Sex Responsiveness and Opposite Sex Responsiveness – emerged in the entire group's unrotated orthogonal factor analysis of questionnaire 2 responses and that, as with questionnaire 1, almost all items loaded on one of these two factors suggests that this questionnaire has acceptable construct validity.

Similar oblique factors emerge in the sub-groups and the entire sample. The 4 main oblique factors were identically named in all 3 cases (two sub-groups + entire sample). The Psych 3 sub-group did have 5 oblique factors whereas the Psych 1 and entire sample each had 4 factors. In the light of the fact that the 4 main oblique factors in each case were identical, however, it is thought that a strong argument could be made for questionnaire's external validity after all.

Implications for Future Sexual Orientation Measurement

The fact that these 2 factors (*Same Sex Responsiveness* and *Opposite Sex Responsiveness*) so consistently emerged in this study – for both questionnaires and for all sample sub-groups – adds weight to the notion that Same and Opposite Sex Responsiveness should not be combined as in the KSOG but rather measured independently as in the SSSO.

Information which pertains to the question posed by Diamond (2003) and others regarding the need to view Emotion as an integral and inherent component of the construct 'sexual orientation' and the resultant need to include this dimension in its measurement – or not – was also gained.

Frequently the only items that did not load as expected on one of the 2 main factors in the unrotated orthogonal factor analyses of questionnaire 1 belonged to the Emotion dimension. (No Emotion dimension items were included in questionnaire 2.) In addition in the oblique rotation factor analyses the Emotion dimension items typically loaded on separate factors from the bulk of the items. They also consistently and significantly did not load for the main factors which emerged in these factor analyses. These items also did not act as a unified entity even with regard to Emotion in that they were typically spread out over between three and five separate factors. These findings can be seen to support the possibility that independent psychoaffectional orientations do exist and that these are independent of an individual's sexual orientation. As they also typically reduced the reliability of questionnaire 1 (albeit marginally) it could be argued that items pertaining to Emotion should rather be omitted from future measurements of sexual orientation per se.

Another possible variation with regard to structuring of measures of sexual orientation which should be addressed is the issue of whether Fantasy and Attraction should be measured separately as in the KSOG or lumped together as occurs in the SSSO. Dependent *t*-tests showed a significant difference between Fantasy and Attraction responses lending support to the notion that these should not be collapsed and combined into a single construct (e.g. covert responsiveness) but rather remain separate dimensions – an aspect where the multidimensionality of the KSOG can possibly be argued to be conceptually superior to the SSSO.

Exploration of responses

Although strictly speaking the aim of the current research is to contribute to the arena of sexual orientation research by developing a psychometrically sound operational definition of sexual orientation – a reliable and valid measurement tool (or tools) – as has been addressed above, it would be useful, prior to concluding with ideas as to how to proceed with enhancing such a measure in future research, to examine some of the findings gained in the initial uses of the current tools as applied to the adolescent sample groups utilised in this study – particularly because such data on South African adolescents is rather scarce.

Entire Sample

As expected in Questionnaire 1 the responses for Same Sex related items were noticeably lower than those for Opposite Sex related items. This was not formally investigated by means of statistical tests in this study but would make for interesting comparison with studies such as that of Remafedi et al. (1992) who commented at length in this regard. The lowest response for Opposite Sex items was for item 1 and was 818 and the highest response was for item 27 where 833 adolescents responded. For Same Sex items the lowest response was for item 8 where 712 adolescents responded and the highest was for items 18 and 20 where 756 responded.

Responses for Questionnaire 2 varied from 635 to 639 for Opposite Sex related items and from 598 to 601 for Same Sex related items. This questionnaire was only administered to two of the three sample groups involved in this study.

Other findings which are not regarded as central to this study but are nevertheless interesting and therefore merit brief comment here concern the frequency of responses, particularly to items often perceived to be “socially undesirable”.

Questionnaire 1

It is noteworthy that 25 percent of respondents indicated that they had fantasized about their same sex at some point in their lives – and 8 percent admitted to fantasizing about their own sex in the previous month. It is also interesting to note that 2 percent reported never having fantasized about the opposite sex. Approximately 21 percent admitted to feeling some sexual attraction towards a person or people of their same sex at some point in their lives and 9 percent admitted to experiencing this over the previous month. Only 1 percent of respondents reported never having experienced any attraction for the opposite sex. Approximately 17 percent admitted to having had intimate physical contact with a person or people of their same sex and for 3 percent this occurred in the previous month. Only 6 percent had never had any form of intimate physical contact with the opposite sex and 30 percent had not had any form of intimate physical contact with the opposite sex over the previous month. Approximately 6 percent reported having been in love with someone of the same sex and 2 percent reported this having occurred within the previous month. Just over 5 percent of respondents reported never having fallen in love with anyone of the opposite sex in their lives and 24 percent had not experienced any feelings of being in love with someone of the opposite sex in the previous month. These findings serve to illustrate the potential data which this questionnaire can generate. Such data can then be used to educate adolescents and inform policy developments. The current data support the notion that gay and straight people are not in discreet and separate categories and can overlap substantially with regard to sexual responsiveness – a finding which could be utilised in countering prejudice. The relative ‘normalcy’ of homosexual traits or tendencies as found in this study could, if disseminated sufficiently, serve to alleviate straight people’s fears with regard to their identities and thereby reduce anxiety and

reaction formation based hostility towards people of alternative sexual orientations. Findings such as these could also increase understanding of the relativity of sexual orientations and reduce divisive thinking and attitudes.

Questionnaire 2

Interestingly in the Fantasy related items 15 percent of respondents indicated that they would experience dreaming about an attractive same sex person as being pleasurable whereas only 11 percent indicated that they would experience dreaming about an unattractive opposite sex person as being pleasurable. This finding is somewhat surprising considering the expected effects of homophobia but might be explicable in terms of the fact that dreaming is an involuntary form of fantasy for which people might not experience negative feelings associated with responsibility (such as guilt or fear of social sanction).

A similar number (15 percent) indicated that they would experience pleasure from receiving sexual contact from an attractive person of the same sex and 12 percent indicated that they would experience pleasure from performing sexual acts on an attractive person of the same sex. As expected more respondents indicated that they would experience pleasure from receiving sexual contact from unattractive opposite sex people (31 percent) and from performing sexual acts on unattractive people of the opposite sex (19 percent). This could be seen to support the previous hypothesis that level of perceived ‘culpability’ plays a role in determining levels of pleasure so that passive, as opposed to active, sexual acts could be perceived to correlate with lower levels of responsibility. The fact that unattractive (opposite sex) people were associated with pleasure at double the rate of attractive (same sex) people in the Contact dimension (in contrast to the previous Fantasy one) suggests that social desirability (homophobia) plays a greater role in affecting reported levels of pleasure when it comes to sexual contact than it does when it comes to sexual fantasy – particularly dreaming.

In the Attraction dimension, unlike the previous two dimensions, the majority of respondents indicated pleasure at *both* attractive (96 percent) and unattractive (62 percent) people of the opposite sex finding them attractive. Only 25 percent indicated pleasure at attractive same sex people finding them attractive and 10 percent

indicated pleasure at being found attractive by unattractive same sex people. The indications in this dimension support the hypothesis with regard to the effects of social sanctions and homophobia on levels of pleasure even more strongly as there is a more noticeable divide between the opposite and same sex here than there is between attractive and unattractive people when compared with that found in the other two dimensions.

Dimensions x Groups

Numerous dimensions were hypothesized to exist in the structuring and development of each questionnaire. In questionnaire 1 these were primarily the Fantasy, Attraction, Contact and Emotion dimensions as well as Opposite and Same Sex dimensions. Other dimensions or continua which were incorporated into this questionnaire were the Lifelong and Previous Month time periods and the Frequency and Intensity (Average and Maximum) of responses. Altogether this generated 36 different combinations of dimensions (or groupings of items) which were examined (see page 108) consisting of between 2 and 16 items each. Significant differences emerged between the sub-groups included in this study in 23 of these 36 dimensions. This was particularly the case between the Scholars and Psych 1 groups which were significantly different in their responses in 22 of the 23 dimensions which were found to have significant differences between groups. In 4 of these 22 dimensions the Scholar group's responses were also significantly different from the Psych 3 group. In the remaining dimension which evidenced a significant difference between groups it was the Scholars and Psych 3's responses that were found to be different (and then only at the $p < 0.05$ level). The Psych 1 and Psych 3 groups' responses were not found to be significantly different on any of these 36 dimensions. This was an interesting and somewhat unexpected finding as the age gap between the Scholars and the Psych 1 groups should have been somewhat smaller than that found between the Psych 1 and Psych 3 groups and as a result one might have expected more significant differences to be evident between the Scholars and the Psych 3 groups. The Psych 1's were regarded as being the most socially insecure of the 3 groups in that they were in an unknown and new environment and an exaggeration of heterosexual, "socially desirable" responses may have played a greater role in this group than in the other 2 groups.

In questionnaire 2 the primary dimensions were fairly similar to those in the first questionnaire i.e. Same Sex and Opposite Sex; and Fantasy, Contact and Attraction. No Emotion dimension was included and no time periods (Lifelong or Previous Month) were set. Another change was that only Intensity of responses – not Frequency – was assessed. New dimensions that were added included that of level of attractiveness of the other person concerned (Attractive / Unattractive) and also the nature of the Contact being experienced (Active-Performing / Passive-Receiving). It should be noted that the items pertaining to Attraction really tap feelings related to other people's sexual responsiveness towards the respondents rather than related to their own sexual responsiveness and as such can be argued to be unrelated (or at best indirectly related) to the respondents' own sexual orientations. A total of 21 combinations of dimensions (or groupings of items) each consisting of between 2 and 8 items were examined (see page 190). Significant differences were found to exist between the two sub-groups included in this study (Psych 1's and Psych 3's) in 3 of these 21 dimensions. These were the Same Sex Contact, Contact with Unattractive people and the whole Unattractive cluster of items. This suggests that some factor may play a role in changing how Psych students respond to questions related to their feelings about (1) contact with their same sex and (2) contact with and responses to and from people they perceive to be unattractive. One could reasonably speculate that this may have something to do with maturing or studying psychology but it may also be a result of the predominance of divergent thinkers (as opposed to a greater mix of convergent and divergent thinkers) probably present in a more advanced psychology class (Shively & DeCecco, 1978).

Factors x Demographics

Questionnaire 1's 4 oblique factors were:

Same Sex Responsiveness (Factor 1)
Opposite Sex Responsiveness (Factor 2)
Previous Month's Same Sex Responsiveness (Factor 3)
Previous Month's Opposite Sex Responsiveness (Factor 4)

The only one of these factors to show a significant sample sub-group effect was Factor 2 *(Opposite Sex Responsiveness)*. Here the Scholars and Psych 1's were found to be significantly different. Once again Psych 1 exaggeration of responses, potentially exacerbated by their somewhat intimidating context, was suspected. The Psych 1's were thought to have shared the relative immaturity of the Scholars to a large extent – with the Psych 1's being tested at their first tutorial of their first year out of school, both groups would not yet have experienced life outside of the school environment to any substantial extent at the time of testing. In addition some research has suggested that adolescents who will advance further in education tend to delay (heterosexual) sexual activity. This may have resulted in a compensatory (reaction formation) dynamic coming into play with the Psych 1 group – who were clearly academically ahead of the Scholars group – making their responses often more extreme than even the older and presumably more experienced Psych 3 group. An alternative explanation could be that a more general population of adolescents (such as the Scholar group) may be less heterosexually responsive than a general mix of academically stronger adolescents (such as the multi-disciplinary Psych 1 group) which in turn is more heterosexually responsive than a group of typically divergent thinkers (such as the overwhelmingly social scientist Psych 3 group).

Males and females differed significantly with regard to both Factors 1 *(Same Sex Responsiveness*) and 2 *(Opposite Sex Responsiveness)*. It is noteworthy that they did not differ on the Factors which limit responsiveness to the Previous Month, however. The differences could be a result of the different socialization experiences which males and females typically experience and could help to explain why many contradictory findings with regard to gender differences and sexuality are found in the published literature. It is possible that females, for instance, may experience greater discouragement and hence greater inhibition with regard to sexuality than males do in their formative years. This difference may disappear as adolescence progresses however hence the lower Lifetime scores in females while the Previous Month scores may be comparable.

Three sexual orientation self-labels (identities) were able to be examined: "Completely Homosexual", "Mainly Heterosexual, Occasionally Homosexual" and

"Completely Heterosexual". The findings suggested that the responses to the first 3 factors were significantly different between these three groups. The test discriminated between Complete Homosexuals and Complete Heterosexuals with regard to all 3 factors. It also differentiated between Complete Homosexuals and those who identified as being "Mainly Heterosexual, Occasionally Homosexual" with regard to Factors 2 (*Opposite Sex Responsiveness*) and 3 (*Previous Month's Same Sex Responsiveness)* but not with regard to Factor 1 (*Same Sex Responsiveness*). This finding suggests that any same sex responsiveness that the latter group experienced occurred prior to the Previous Month limit set and could add to the data of information relevant to the relationship between adolescent self-labelling and time limits of sexual responsiveness towards the same or opposite sex. The group identifying as "Mainly Heterosexual, Occasionally Homosexual" and the Complete Heterosexual group only differed significantly with regard to Factor 1 (*Same Sex Responsiveness*).

Only Factors 1 *(Same Sex Responsiveness)* and 2 *(Opposite Sex Responsiveness*) had significant age related differences. These only pertained to the 22 year olds being significantly different in terms of responses to those of the 16, 17 and 19 year olds with respect to Factor 1. The age groups which differed in respect of Factor 2 could not be ascertained. The fact that most of the age groups were not found to have significant differences in responses to even Factors 1 and 2 was interesting and contrasted to the findings of Remafedi et al. (1992) who found marked differences between age groups in their sample. A possible explanation for this difference is that their sample comprised adolescents from age 12 to 18 whereas the bulk of the current study's sample fell within the 17 to 21 year range. This could suggest that the event of leaving school plays a significant part in sexual responsiveness and self-categorization or labelling.

Questionnaire 2's 4 oblique factors were:

Same Sex Responsiveness (Factor 1)
Unattractive Opposite Sex Responsiveness (Factor 2)
Attractive Opposite Sex Responsiveness (Factor 3)
Attraction (Factor 4)

The sample sub-groups' (Psych 1's and Psych 3's) responses differed significantly (at the $p < 0.05$ level) with regard to Factor 1 (*Same Sex Responsiveness*). This was contrary to what was found in questionnaire 1. It might represent a growing sophistication with regard to discriminating between feelings and types of people in the more psychologized Psych 3 group. It may also indicate that questionnaire 2 is more sensitive than questionnaire 1 when it comes to picking up age (or other variable) related variations in different adolescent samples.

Males and females responded in significantly different ways to all four oblique factors. This finding could support the view that sexually, males and females are very different but it could also indicate a gender related difference in handling emotions – which tends to favour females – particularly emotions relating to sensitive topics such as sexuality.

Factors 1, 3 and 4 were found to be responded to in significantly different ways by the three sexual orientation self-label groups: "Completely Homosexual", "Mainly Heterosexual, Occasionally Homosexual" and "Completely Heterosexual". The test discriminated between Complete Homosexuals and Complete Heterosexuals with regard to Factor 1 (*Same Sex Responsiveness)* and Factor 3 (*Attractive Opposite Sex*). Not surprisingly it did not discriminate between these groups on the basis of their responses to Factor 2 (*Unattractive Opposite Sex*) and Factor 4 (*Attraction*). The Complete Homosexuals only differed from Mainly Heterosexual-Occasional Homosexuals with respect to responses to Factor 3 (*Attractive Opposite Sex*). This too is not a surprising finding and would be predictable. The latter group and the Complete Heterosexual group differed on Factors 1 (*Same Sex Responsiveness*) – unsurprisingly – and 4 (*Attraction).* The latter difference is intriguing. The four items in this factor all tap the respondents' feelings about others finding *them* attractive and this factor does not differentiate between same and opposite sexes (in that it includes items pertaining to both). It could be argued that it only relates indirectly to sexual responsiveness. In this regard it is noteworthy that the Psych 3's Factor 4 excluded item m (which emerged as a fifth factor – *Response to Attractive Opposite Sex's Responsiveness*). Logically this makes sense as a predominantly heterosexual group could be expected to discriminate between Attractive Opposite Sex

responsiveness on the one hand and that of Unattractive Opposite Sex and Unattractive and Attractive Same Sex responsiveness on the other. What is curious is that the (also predominantly heterosexual) Psych 1 group did not seem to make this discrimination in terms of its responses towards favourable Attractive Opposite Sex Responsiveness. Item analysis revealed that these two sub-groups differed with regard to their responses to items o and p. These items dealt with feelings about Same Sex people's Responsiveness towards oneself. Possibly the best explanation for this difference may be an increased level of tolerance evident in Psych 3's (and possibly a decreased level of homophobia). Once again no significant age related differences were determined with regard to responses to items comprising the different Factors.

Future Developments

The next step in the development of these measures would be the determination of other types of reliability and validity. Although the forms of reliability and validity determined appear to be respectable these statistics should be augmented with investigations into particularly test-retest reliability and both forms of criterion-related validity i.e. concurrent validity (comparing results with the KSOG and SSSO for example) and predictive validity (comparing results in more longitudinal studies).

Furthermore, the administration of the questionnaires to more diverse and also more representative samples in a wider variety of settings would also add to the process of assessing their respective reliabilities and validities. Preliminary use and initial testing has been sufficiently positive to suggest that these measurement tools could prove to be valuable aids in our collective understanding of and research into sexual orientations and related issues.

A major problem with the current questionnaires is their length. This particularly applies to questionnaire 1 with its 32 items. Although, practically it only takes university students between 10 and 15 minutes to complete – and scholars slightly longer – traditional approaches are far shorter (e.g. the Kinsey Scale). The KSOG contains 21 items in total and it has been suggested in published research that this stands as "middle ground" between attempts to describe sexual orientation in single

words and those requiring the completion of full clinical histories. Some statistical results suggested that the Emotion dimension items could be omitted without negatively affecting the statistical value of questionnaire 1 – and in fact possibly improving this (albeit marginally). These findings mirror factor analysis findings related to similar items on the KSOG (Sell, 1997). It may therefore also be conceptually advantageous to exclude these items as they tend to factor separately from Fantasy, Attraction and Contact items in non-heterosexual samples (Weinrich et al., 1993) as well as in predominantly heterosexual samples (current study). Should it be decided to omit this dimension from questionnaire 1, the length of the entire questionnaire would be reduced to 24 items – comparable to the KSOG in length. The next best items to omit would be the last 4 items of the Contact dimension – those dealing with the Previous Month – as these emerged as significant separate factors. Even reducing the number of items in questionnaire 1 to 20 in this way could be argued to be too lengthy for many of the traditional methods of gaining information with regard to sexual orientations. This is a moot point, however, as traditional methods have been well documented to have failed to deliver useful, reliable and valid results and as such have, as far as much research into sexual orientations has been concerned, essentially been a waste of time.

Future Applications and Implications

The development of a reliable and valid instrument to measure sexual orientation, as has been furthered by the current study, can be expected to have far-reaching implications in a diverse set of arenas extending beyond the realm of research and affecting the legal, clinical, political and educational spheres. Clinically it would have value in terms of patients presenting with sexual orientation confusion or distress associated with DSM diagnoses such as Sexual Disorder NOS, Identity Problems and Borderline Personality Disorder. Gonsiorek et al. (1995) point out that whether sexual orientations do or do not constitute a distinct class for legal purposes, and the nature of that class, will have implications on whether equal protection arguments under the U.S. constitution can prevail. South Africa, with its fledgling constitution faces similar public policy repercussions as elsewhere in the world, in the realms of employment, housing, public accommodations, child custody, the military, crime, education and immigration. Within the field of sexual orientation itself such a valid

and reliable instrument would add rigour and value to individual and collective efforts at discovering more about commonly researched yet stubbornly enigmatic areas such as the aetiology, typology and development of sexual orientations as well as related areas such as adjustment, attitudes towards and effects of various sexual orientations on people with non-heterosexual and heterosexual sexual orientations alike.

APPENDIX A

INSTRUCTIONS

A - ANSWER ALL QUESTIONS.
B - BE AS HONEST AS POSSIBLE.
C - CROSS THE MOST CORRECT OPTION/S UNDER EACH ITEM.
D - DO NOT COMMUNICATE WITH OTHERS DURING THE PROCESS.
E - EACH QUESTIONNAIRE SHOULD BE ANONYMOUS (NAMELESS).

DEMOGRAPHICS

My gender is… (please cross the correct option)

male	female

My age is… (please cross the correct option)

16	17	18	19	20	21	22	23	24	25	26	27+

I am currently… (please cross the correct option)

single	in a committed relationship

My sexual orientation is… (please cross the **most** correct option only)

completely homosexual	mainly homosexual, occasionally heterosexual	Mainly homosexual, more than occasionally heterosexual	equally homosexual and heterosexual	mainly heterosexual, more than occasionally homosexual	mainly heterosexual, occasionally homosexual	completely heterosexual

DEFINITIONS

Sexual Fantasizing - imagining or picturing engaging in intimate physical contact (e.g. prolonged kissing, petting, masturbation, oral sex, intercourse, anal sex etc.) as often occurs during masturbation, dreaming, wishful thinking, daydreaming and remembering past experiences or events. May be brief or prolonged, by choice (deliberate) or out of one's control (involuntary)…

Sexual Attraction - focusing one's attention on the physical appearance of a person who you regard as being attractive - which arouses interest or pleasure. Can be up close or at a distance or via any form of media (magazine, television, computer etc). May be brief or prolonged, deliberate (by choice) or involuntary (out of one's control). If continued could result in sexual arousal…

Sexual Contact - engaging in intimate physical contact such as occurs in intimate (prolonged/wet) kissing, petting, fondling, masturbating, oral sex, intercourse, anal sex etc. …

'In Love' - feeling strongly affectionate towards a person, being fascinated with the person, experiencing positive feelings when thinking about the person, strongly desiring the other person's company (presence), having concern for their well-being and happiness, feeling close to and emotionally in tune with them, valuing having them reciprocate the feelings. Could be a secret crush or an actual relationship…

FROM THE NEXT QUESTION TO THE END OF THE QUESTIONNAIRE PLEASE INDICATE THE MOST ACCURATE ANSWER TO EACH QUESTION BY PLACING ONLY A **SINGLE** CROSS IN THE RELEVANT OPTION BOX UNDER EACH QUESTION…

E.G.

(1) In my entire life I have fantasized about sexual activity involving a person (or people) of the opposite sex…

more than 200 times	between 100 and 200 times	between 50 and 100 times	between 20 and 50 times	more than once but less than 20 times	once	never

(2) In my entire life I have fantasized about sexual activity involving a person (or people) of the same sex…

more than 200 times	between 100 and 200 times	between 50 and 100 times	between 20 and 50 times	more than once but less than 20 times	once	never

(3) I would describe the MOST pleasure that I have ever experienced from fantasizing about someone of the opposite sex as being _____ pleasurable.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(4) I would describe the MOST pleasure that I have ever experienced from fantasizing about someone of the same sex as being _____ pleasurable.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(5) I would describe my AVERAGE experience of fantasizing about someone of the opposite sex over the last 30 days as having been _____ pleasurable.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(6) I would describe my AVERAGE experience of fantasizing about someone of the same sex over the last 30 days as having been _____ pleasurable.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(7) I would estimate that I have experienced fantasy involving someone of the opposite sex over the last 30 days _____ time(s)

more than thirty	25 - 30	21 – 24	11 - 20	5 - 10	1 - 4	no

(8) I would estimate that I have experienced fantasy involving someone of the same sex over the last 30 days _____ time(s)

more than thirty	25 - 30	21 – 24	11 - 20	5 - 10	1 - 4	no

(9) In my entire life I have felt some sexual attraction towards a person (or people) of the opposite sex

more than 200 times	between 100 and 200 times	between 50 and 100 times	between 20 and 50 times	more than once but less than 20 times	once	never

(10) In my entire life I have felt some sexual attraction towards a person (or people) of the same sex

more than 200 times	between 100 and 200 times	between 50 and 100 times	between 20 and 50 times	more than once but less than 20 times	once	never

(11) I would describe the MOST sexual attraction that I have ever felt towards someone of the opposite sex as being _____ intense.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(12) I would describe the MOST sexual attraction that I have ever felt towards someone of the same sex as being _____ intense.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(13) I would describe my AVERAGE experience of feeling sexual attraction towards someone (or some people) of the opposite sex over the last 30 days as having been _____ intense.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(14) I would describe my AVERAGE experience of feeling sexual attraction towards someone (or some people) of the same sex over the last 30 days as having been_____ intense.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(15) I would estimate that I have experienced sexual attraction towards someone of the opposite sex over the last 30 days _____ time(s)

more than thirty	25 - 30	21 – 24	11 - 20	5 - 10	1 - 4	no

(16) I would estimate that I have experienced sexual attraction towards someone of the same sex over the last 30 days _____ time(s)

more than thirty	25 - 30	21 - 24	11 - 20	5 - 10	1 - 4	no

(17) In my entire life I have had intimate physical contact with a person (or people) of the opposite sex …

more than 200 times	between 100 and 200 times	between 50 and 100 times	between 20 and 50 times	more than once but less than 20 times	once	never

(18) In my entire life I have had intimate physical contact with a person (or people) of the same sex

more than 200 times	between 100 and 200 times	between 50 and 100 times	between 20 and 50 times	more than once but less than 20 times	once	never

(19) I would describe the MOST pleasure that I have ever experienced from having intimate physical contact with a person of the opposite sex as being _____ pleasurable.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(20) I would describe the MOST pleasure that I have ever experienced from having intimate physical contact with a person of the same sex as being _____ pleasurable.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(21) I would describe my AVERAGE experience of having intimate physical contact with someone of the opposite sex over the last 30 days as being _____ pleasurable.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(22) I would describe my AVERAGE experience of having intimate physical contact with someone of the same sex over the last 30 days as being _____ pleasurable.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(23) I would estimate that I have had intimate physical contact with someone of the opposite sex over the last 30 days _____ time(s)

more than thirty	25 - 30	21 - 24	11 - 20	5 - 10	1 - 4	no

(24) I would estimate that I have had intimate physical contact with someone of the same sex over the last 30 days _____ time(s)

more than thirty	25 - 30	21 - 24	11 - 20	5 - 10	1 - 4	no

(25) In my entire life I have felt that I was 'in love' with _____ different people (person) of the opposite sex

more than 50	between 20 and 50	between 10 and 20	between 5 and 10	more than one but less than 5	one	no

(26) In my entire life I have felt that I was 'in love' with _____ different people (person) of the same sex

more than 50	between 20 and 50	between 10 and 20	between 5 and 10	more than one but less than 5	one	no

(27) I would describe the MOST 'in love' that I have ever been with someone of the opposite sex as being _____ 'in love'.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(28) I would describe the MOST 'in love' that I have ever been with someone of the same sex as being _____ 'in love'.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(29) I would describe my AVERAGE experience of being 'in love' with someone of the opposite sex over the last 30 days as being _____ 'in love'.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(30) I would describe my AVERAGE experience of being 'in love' with someone of the same sex over the last 30 days as being _____ 'in love'.

extremely	very	significantly	moderately	mildly	slightly	not at all / not applicable to me

(31) Over the last 30 days I have experienced feelings of being 'in love' with someone of the opposite sex _____ time(s)

more than thirty	25 - 30	21 - 24	11 - 20	5 - 10	1 - 4	no

(32) Over the last 30 days I have experienced feelings of being 'in love' with someone of the same sex _____ time(s)

more than thirty	25 - 30	21 - 24	11 - 20	5 - 10	1 - 4	no

APPENDIX B

(a) I would find dreaming about having sex with a good-looking person of the opposite sex to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(b) I would find dreaming about having sex with an unattractive person of the opposite sex to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(c) I would find dreaming about having sex with a good-looking person of my same sex to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(d) I would find dreaming about having sex with an unattractive person of my same sex to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(e) I would experience having a good-looking person of the opposite sex perform sexual acts on me to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(f) I would experience having an unattractive person of the opposite sex perform sexual acts on me to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(g) I would experience having a good-looking person of my same sex perform sexual acts on me to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(h) I would experience having an unattractive person of my same sex perform sexual acts on me to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(i) I would experience performing sexual acts on a good-looking person of the opposite sex to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(j) I would experience performing sexual acts on an unattractive person of the opposite sex to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(k) I would experience performing sexual acts on a good-looking person of my same sex to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(l) I would experience performing sexual acts on an unattractive person of my same sex to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(m) I would experience a good-looking person of the opposite sex finding me attractive to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(n) I would experience an unattractive person of the opposite sex finding me attractive to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(o) I would experience a good-looking person of my same sex finding me attractive to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

(p) I would experience an unattractive person of my same sex finding me attractive to be a _____ experience.

very unpleasant	unpleasant	Slightly unpleasant	neutral	slightly pleasurable	pleasurable	very pleasurable

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