THE DEVELOPMENT OF A SCALE TO MEASURE SEXUAL ORIENTATION AND AN EXAMINATION OF ITS PSYCHOMETRIC PROPERTIES

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ABSTRACT

The purpose of the study was to develop a scale to measure sexual orientation and to examine its psychometric properties. Previous scales were critically examined and compared and the need for a scale which simultaneously measures same and opposite sex responsiveness independently, and accounts for dynamic changes over time, while testing a number of overt and covert dimensions of sexual orientations, was established. A 48-item scale was designed to tap self-reported intensity and frequency of Emotional Attachment, Sexual Fantasy, Sexual Attraction and Sexual Contact towards males and females in the Past, Present and Future. An initial study was conducted with 13 undergraduate university students of both genders, representing a variety of sexual orientations and nationalities, and qualitative feedback was obtained and utilized to make appropriate adjustments and refinements to the scale. The scale was then administered to 133 Rhodes University undergraduate psychology students to obtain quantitative data with regard to its internal structure. The scale was found to have a good internal consistency reliability Cronbach *alpha* coefficient of 0.8106. Existing sub-scales had lower *alpha* coefficients. Factor analysis, a form of construct validation, was performed and four factors emerged. These had very good internal consistency reliability *alpha* coefficients: Sexual Responsiveness to Females (0.9894), Sexual Responsiveness to Males (0.9741), Emotional Attachment to Females (0.8403) and Emotional Attachment to Males (0.8372). These factors were further statistically analysed to ascertain how they relate to one another and to the demographics of gender, age, relational status and sexual orientation identity. Future research will need to assess other forms of reliability and validity and focus on larger and more varied samples.

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To my Dad, who introduced me to my real Father on 11 May 1978,

and who went to be with Him on 30 October 1991.

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CHAPTER 1

INTRODUCTION

Humanity has regarded itself as being the apex of creation since time immemorial. We certainly have accomplished more - for good and for evil - than any other species on the planet. According to Maslow the tendency towards self-actualization is *the* motive which underlies all our behaviour as individuals (Meyer, Moore,& Viljoen, 1989). However, only once more basic needs, such as those for security or significance, are met will we be motivated to express *who* we are, simply because until these are met we do not believe that we are anyone worthwhile (Crabb, 1977). This places the search for an identity at the very centre of human functioning.

Erikson (1968; 1980) sees this life crisis as climaxing during adolescence but as needing to be renegotiated throughout life. He defines identity as being the individual's image of herself, including the feeling that a thread of continuity runs through her life, and that her self-image and the view that others have of her are essentially in agreement. For Erikson the individual has achieved a sense of identity when she has managed to integrate all her earlier identifications, drives, wishes, expectations, abilities and skills with the opportunities her society offers her. The danger of this stage is that the individual could experience disorientation in the quest for identity resulting in role confusion.

Block (1973) regards sexual identity as being a vital and integral part of our entire identity. Conger (1991), who states that the term 'sexuality' refers to the totality of the individual's sexual thoughts, feelings, values, beliefs, actions and relationships, points out that sexuality is a lifelong part of being human. He states that the demands for a clearly

defined sexual identity increase during adolescence. According to Gerdes (1988) both sex roles and gender identity are undergoing dramatic changes in contemporary society and existing conceptualizations are, therefore, requiring critical review.

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 or females. Finally, *sexual orientation,* is the erotic and / or affectional disposition to the same and / or opposite sex.

This distinction serves to effectively minimize confusion with regard to sexual orientation which is a highly emotive and very politicized issue even among psychologists (Greene, 1994; Kirk & Kutchins, 1992) but also one which has not been very well understood or effectively researched (Bem, 1993; Manosevitz, 1974; Stoller, 1985).

Psychology has offered a wealth of conflicting, incoherent and disparate theories with regard to the etiology, treatment, effects and implications of different "sexual orientations", particularly "homosexuality" , without ever having reached a consensus on what any of these terms actually refer to - operationally or conceptually (Shively, Jones, & DeCecco, 1984) or even on whether any of these terms actually exist as valid concepts at all (Gonsiorek, Sell, & Weinrich, 1995). 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 or inadequately tested and verified by broad-based empirical research.

Parker (1977) warned against a situation where a wealth of data is amassed concerning a phenomenon whose very nature is never made explicit. Isaacs and McKendrick (1992) state that many methodological and conceptual limitations mar even relatively recent studies on sexual orientation.

Psychologists may, in fact, have very little to contribute in this area at this time beyond the humble admission that a great deal of research, focusing on fundamentals such as how best to define and measure sexual orientation, still needs to be carried out. It is to contribute to this process that this research was conducted.

CHAPTER 2

LITERATURE SURVEY

INTRODUCTION

The measurement and definition of sexual orientations have increasingly become a central focus in research design and public policy debates according to Gonsiorek, Sell, and Weinrich (1995). They predict that future research will see extensive revision of the definition, measurement and conceptualization of sexual orientations.

Although researchers are, with increasing frequency, including sexual orientation as a demographic variable in studies Sell (1997) points to the lack of published research into problems with its assessment for such a purpose. Berkey, Perelman-Hall, and Kurdek (1990) concur that research on the *assessment* of sexual orientation has been limited and what does exist is often conflicting and confusing.

Today the terms heterosexual, homosexual and bisexual, are the most commonly used by researchers despite the fact that such a trichotomy has been deemed unsatisfactory for over 50 years (Sell, 1997). Such terms lack both specificity and consensus in terms of their definitions resulting in a confounding of comparative research and cumulative understanding (Donovan, 1992).

HISTORICAL OVERVIEW

The Kinsey Scale

Although a wide variety of definitions and measures have been used since the 1860's, when sexual orientations first gained widespread research interest among psychologists, it was Kinsey who ushered in the modern era of *scientific* measurement of sexual orientation and 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 heterosexual-homosexual 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 (Moberly, 1983) might exist.

Shively, Jones, and DeCecco (1984) identified 1969 as marking the start of a proliferation of published research on sexual orientation. Their extensive survey of research literature revealed that only a minority of the studies ever *defined* sexual orientation and a wide divergence in definitions and perplexing array of meanings was evident. Less than 20% of these studies used the KHHS (see Figure 1).

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 the KHHS is not without problems, however. Three major criticisms have been levelled at the KHHS:

(1) 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). 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 (Klein, Sepekoff, & Wolf, 1985) as opposed to measuring it in terms of overt behaviour.

(2) The Kinsey Scale requires individuals to make trade-offs between homosexuality and heterosexuality, in that they are not measured independently - assuming that a 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.

(3) 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 four percent of males are exclusively homosexual after the onset of adolescence, eighteen percent of males have at least as much of the homosexual as the heterosexual in their histories *for at least three 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; Collins, 1988; Dallas, 1991; Davies & Rentzel, 1993; Ellis, 1965; Grazioli, 1998; Konrad, 1993; Payne, 1995, 1996; Saia, 1988; Schwartz & Masters, 1984; White, 1977; Worthen & Davies1996).

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.

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

1	2	3	4	5
Not at all Homosexual		Somewhat Homosexual		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 properties have not yet been investigated and its consideration of physical and affectional preference may be oversimplified or even inappropriate (Sell, 1997).

The Klein Sexual Orientation Grid

The Klein Sexual Orientation Grid (KSOG) (Klein, Sepekoff, & 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. Heterosexual/ Homosexual Lifestyle			

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.

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 attempts to force respondents into one of nine 'educed' categories. 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 homosexual, currently homosexual**
7	**Homosexual**
8	**Past homosexual, currently heterosexual**
9	**Asexual**

Each of the above dimensions were 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* (Sell, 1997). The MSS has also not been tested on a diverse, representative sample.

The Sell Scale of Sexual Orientation

The Sell Scale of Sexual Orientation (SSSO) (Gonsiorek et al., 1995) addressed the first two criticisms leveled 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' although this has yet to be thoroughly statistically examined. 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).

DEFINITION

Shively et al. (1984) concluded that the wide divergence in the definitions of sexual orientation - both conceptual and operational - were symptomatic of an underlying conceptual confusion. Sell (1997) states that if advances in the understanding of sexual orientations are to be made it is critical that definitions and measures of sexual orientation be standardized. He goes on to point out that the examining and debating of problems in assessing sexual orientation in the literature is a process which is only just beginning. He suggests that a review of previous efforts to measure and define sexual orientation could potentially advance this important process.

DeCecco's (1981) comprehensive definition of sexual orientation could be used to formulate a useful framework for a measurement instrument of sexual orientation in such a way as to combine the strengths and advances, while simultaneously neutralizing the flaws and inadequacies, of previous measurement tools.

For DeCecco 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). The only other psychological (covert) dimension of sexual orientation that is relatively often included in definitions of sexual orientation, along with sexual fantasies, is that of *sexual attraction*, cf. the KSOG, SSSO, MSS as well as the DSM-IV descriptions of interactions with sex object choices.

FUTURE IMPLICATIONS

A coherent definition and valid, reliable measure of sexual orientation would have far-reaching implications in a number of fields related to mental health:

Legal Implications

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 ("Gay

couple's twins refused residency," 2000), the military, crime ("Bill to lower age of consent for gay men", 2000), education - as debated in the Scottish parliament ("Cardinal condones homophobia", 1999) - and immigration ("Gay men who fear persecution in their countries flee to SA", 1999). The need for a reliable definition of sexual orientation to be established locally, so as to allow a mutual understanding of concepts, presupposes any intelligent debate of these contentious issues by various stakeholders.

Clinical Implications

Furthermore, the development of a more valid measurement tool than currently exists could have considerable value in terms of assessment and interventions made with patients who present with sexual orientation confusion or distress associated with DSM-IV (American Psychiatric Association, 1994) diagnoses of Sexual Disorder Not Otherwise Specified (302.9), Identity Problem (313.82) and Borderline Personality Disorder (301.83).

Political Implications

Gonsiorek et al. (1995) also point to the deliberate disinformation, in the service of anti-homosexual political agendas, which has occurred, whereby the absolute number of homosexual men is asserted to be lower so that the proportion affected by AIDS substantially increases. The result is that the rate of HIV infection appears higher among homosexual men than it actually is. Such misperceptions, associating AIDS with a gay lifestyle, have been found to be prevalent in South Africa and to be counterproductive to prevention initiatives which rely on a sense of ownership to instil self-help behaviours (Pegge, 1994). Accurate epidemiological research, which presupposes valid measurement tools, is required to counter this disturbing trend.

Educational Implications

In the light of the prevalence of suicide and suicide attempts in lesbian and gay adolescents as well as the association between various health risk behaviours and sexual orientation of adolescents (Garofolo, Wolf, Kessel, Palfrey and Du Rant, 1998) - a high risk group in the context of the South African AIDS pandemic where fifty percent of the current 15 year old males are expected to die of AIDS ("Report: One in two SA teens to die from AIDS", 2000) - serious research efforts are warranted to clarify the relationship between these variables.

In a 1996 study of over 35000 Minnesota adolescents over six percent of eighteen year olds reported predominantly homosexual attractions (Santrock, 1996). For this to be accurately assessed and for related problems to be effectively addressed in the South African context, a more comprehensive measurement and accurate definition of sexual orientations, one which has relevance to a diverse spectrum of society - including adolescents - will need to first be developed and tested.

None of the previous sexual orientation measurement instruments were tested specifically on a typical class of under-graduate university students. Although university students are frequently used in psychological research, there is a relative paucity of studies dealing with adolescent sexual orientation (Mishne, 1986). No published research involving the development of a tool to measure and assess sexual orientation has focused on this particular group.

Berkey et al. (1990) tested their Multidimensional Scale of Sexuality on a sample of 148 people involved with bisexual and homophile organizations. Klein et al. (1985) obtained

their sample of 384 for the Klein Sexual Orientation Grid from *Forum Magazine*'s readership - largely college-educated and employed as professionals or managers. Weinrich et al. (1993), performing a factor analysis on the Klein Sexual Orientation Grid, used two disparate samples of men: 90 recruited from respondents to an advertisement placed in local weekly newspapers asking for volunteers for a study of fat metabolism (31 heterosexual, 30 bisexual and 29 homosexual) and 78 homosexual and bisexual men enrolled in a large AIDS research center. No other published psychometric investigations into sexual orientation measurement instruments were found. What is evident is that all of the above studies include a far smaller than normal proportion of heterosexuals than would be expected in the general population and the frequently overtapped university student population has as yet not been utilized in this regard.

Gonsiorek et al. (1995) concur that the adolescent group are particularly important to investigate in this regard because of the perceived link between suicide and other life-threatening behaviour and sexual identity confusion in this age group. These authors also state that since this group are usually not involved in adult lesbian / gay communities their methods of self-definition are unlikely to be related to that of same-sex oriented adults. Klein et al. (1985) found that there was a significant relationship between their respondents' self-identification and their age. Berkey et al. (1990) limited their study to people who were 18 and older to rule out any pubertal sexual experimentation.

CONCLUSION

It is clear that although the area of research into sexual orientations is becoming ever more popular and the need for accurate information in this area is becoming increasingly

evident in a variety of arenas related to mental health, no generally recognized and accepted, valid and reliable measure of sexual orientation yet exists.

A gap, in existing published research, has been identified with regard to a measurement tool which (1) comprehensively measures sexual orientation in terms of both physical and psychological components, (2) measures same sex and other sex responsiveness independently of each other and (3) adequately accounts for shifts in sexual orientation over time. If an attempt is to be made to more clearly understand and comprehensively measure these multivariable and dynamic aspects of human sexual orientations a new sexual orientation measurement tool, one which simultaneously meets all of the above mentioned criteria, has to be developed and tested.

It is intended that this study will contribute to further research with regard to sexual orientation by providing a more reliable and valid measure of sexual orientation and informing the process of future efforts to develop such a tool. It is also envisioned that the scale will be of use, once further examined and refined in work which will go beyond the scope of the current study, in clinical assessments and interventions with people experiencing confusion or distress with regard to their own sexual orientations. The aim of this research is, therefore, to develop a preliminary scale to measure sexual orientation and to examine its psychometric properties such as reliability and validity.

CHAPTER 3

METHOD

INTRODUCTION

Three distinct phases made up the methodology of this research:

(1) a scale was constructed, taking into account previous scales and criticisms of them as well as DeCecco's definition of sexual orientation

(2) the scale was administered to a small sample to obtain qualitative feedback and revisions and adjustments were made on the basis of this feedback

(3) the scale was administered to a larger sample of respondents and statistical analyses were conducted to ascertain the scale's reliability (internal consistency reliability) and validity (factor analysis construct validity) and to examine its internal psychometric properties.

SCALE CONSTRUCTION

The construction of the measurement instrument to assess sexual orientation developed in this study followed the guidelines for psychometric questionnaire construction delineated by Rust and Golombok (1999). The questionnaire is a person-based questionnaire as opposed to a knowledge-based questionnaire and relies on self-report in keeping with most sexual orientation research to date.

Test Specification

As recommended by Rust and Golombok (1999), a test specification or blueprint was first compiled. To accomplish this a grid structure consisting of content areas along the horizontal axis and manifestations (ways in which the content areas may become manifest) along the vertical axis had to be designed. It was decided to have six content areas: Female Past, Female Ideal, Female Current, Male Past, Male Ideal and Male Current. Eight manifestations were then chosen: Emotional Attachment Intensity, Emotional Attachment Frequency, Sexual Fantasy Intensity, Sexual Fantasy Frequency, Sexual Attraction Intensity, Sexual Attraction Frequency, Sexual Contact Intensity and Sexual Contact Frequency. The recommended number of categories per axis is between four and seven to prevent the questionnaire from becoming too narrow or too cumbersome. The categories on the horizontal axis, therefore fall within the suggested range while those on the vertical axis exceed the recommendation by only one category. The result was a 48 (6 x 8) cell blueprint. This would be regarded as being sufficiently broad but tending towards becoming difficult with regard to manageability. This problem was negated by the fact that the possibility existed for collapsing the eight vertical categories into four by lumping Intensity and Frequency items together so that the following could be regarded as being manifestations: Emotional Attachment, Sexual Fantasy, Sexual Attraction and Sexual Contact. This would have resulted in a conceptually simpler 24 (6 x 4) cell blueprint, should this have proven necessary, without necessitating any functional changes to the items in the questionnaire as these could be accommodated in the new structure by simply doubling the number of items per cell while halving the number of cells. Because of the lack of thorough existing research in the area of sexual orientation it was decided not to give different weightings to different cells by increasing the number of questions in any 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. This meant that each of the 48 cells would contain one question, resulting in a 48-item questionnaire (See Appendix A). The minimum recommended number of items to include in the plan at this stage, to achieve adequate reliability, is twenty and the blueprint clearly exceeds this (Rust & Golombok, 1999).

Figure 5. Test Specification Grid Structure:

		FEMALE			MALE		
		Past	Ideal	Current	Past	Ideal	Current
EMOTIONAL ATTACHMENT	Intensity	1	3	5	7	9	11
	Frequency	2	4	6	8	10	12
SEXUAL FANTASY	Intensity	13	15	17	19	21	23
	Frequency	14	16	18	20	22	24
SEXUAL ATTRACTION	Intensity	25	27	29	31	33	35
	Frequency	26	28	30	32	34	36
SEXUAL CONTACT	Intensity	37	39	41	43	45	47
	Frequency	38	40	42	44	46	48

Item Selection

Rating-scale items are regarded as being the best for person-based questionnaires in that respondents typically feel more able to express themselves precisely with these than with alternate-choice items (Rust & Golombok, 1999) and all the items were designed to comply with this recommendation. Each item had a five-point Likert-type ordinal scale response option, making responding relatively straightforward and quick. Five options were chosen because it was felt 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.

Each item was written clearly and simply with irrelevant material being avoided (e.g. "male" / "female" rather than "person of the opposite sex" / "person of the same sex") and the options were kept as short as possible. 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 the questionnaire did lean towards respondents giving an immediate response rather than carefully considering each item which mitigates against the tendency to respond to any given 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 was kept to an absolute minimum so as to reinforce the vital notion that the questionnaire was confidential and the respondents would have no reason to fear embarrassment or discovery. Only gender, age, relational status and sexual orientation identity were asked for in the demographics section preceding the questionnaire proper. The instructions were clear and unambiguous and emphasized the anonymity inherent in the study.

The layout of the questionnaire was designed so that answers were clearly spatially linked with questions, questions could be easily read and quickly answered and so that items could not easily be unintentionally left unanswered. Because of the sensitive nature of some of the questions the print was not so large as to be easily discerned from a distance and the questions were limited to twelve a page which meant that once respondents had finished a particular section that section could be paged over and the answers concealed.

QUALITATIVE FEEDBACK

Rationale

The initial administration was intended to function as a means of obtaining qualitative feedback from a small sample of respondents prior to the initial administration of the questionnaire which would supply the researcher with more quantitative feedback with regard to the questionnaire.

Participants

As the administration would be carried out on first year psychology students at Rhodes University, the scope of a project at this level needing to be kept manageable and quite focused, it was decided to include only undergraduate university students in this initial administration.

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 defense of such studies, however, he states that simply because research can easily be criticized 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 provides a safeguard against limited generalizability.

The initial administration involved the administration of the questionnaire to thirteen undergraduate students from Rhodes University and the University of Port Elizabeth individually or in small groups not exceeding three in number. All the respondents were personally approached by the researcher and readily agreed to participate in the study. Two of the thirteen participants were female. One respondent was black, one was Chinese and the remainder were white. Three regard themselves as homosexual and the rest as heterosexual. Four of the group were from foreign countries while the remainder were South African citizens.

Procedure

The 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.

Feedback

The pilot study revealed that the questionnaire' s instructions were clear and unproblematic. The Demographics section was criticized with regard to the options available under the Relational Status question. It was felt that the term "Cohabiting" might be unclear to some respondents and needed to be augmented by the addition of the words "Living Together". It was also felt that the option "Going Steady" should be added to the list of options under this question as students who are in a steady dating relationship do not refer to themselves as "Single" or any of the other options available. Modifications were made in accordance with these recommendations even though the study would focus on as yet unmarried students only. Another change made as a result of the pilot study to the Demographics section was to reduce the size of the print and place it next to the instructions so as to minimize the potential distress caused to very self-conscious respondents who were wary of indicating a less than socially desirable "Sexual Orientation" description. The definitions at the top of each page were regarded as being too small and easy to ignore by a significant number of the participants and on their recommendation these were enlarged, placed in the centre, retyped entirely in upper case and framed.

The definition of Emotional Attachment based on DeCecco's (1981) *Interpersonal Affection* was adapted somewhat to suit the specific target group of respondents by replacing the word "coworkers" with "peers" and the words "marital partners" with "partners". In addition the word "intimate", which had been added on to his definition, was omitted because of the strong association with physical and sexual activity in a number of the pilot study participants' opinions.

The definition of Sexual Attraction was also refined by the addition of the words "encountered in person or at a distance or via any form of media" to clarify this as there was an element of uncertainty in one of the respondents in this regard.

The definition of Sexual Fantasy, correlating with DeCecco's (1981) *Erotic Fantasies*, was elucidated and made more concrete by the addition of the words "deliberate or involuntary" at the beginning as well as the words "this may or may not include masturbatory fantasies, daydreams, dreams, viewing pornography, sexual memories and so on" at the end in response to questions elicited and volunteered from the participants during the pilot study.

The definition of Sexual Contact, corresponding with DeCecco's (1981) *Sexual Activity*, was made more explicit by the addition, in parentheses, of the words "including intimate kissing, petting, masturbation, oral sex, intercourse and so on". These words were then added to each previous definition referring to sexual contact so as to increase the uniformity and internal consistency of the questionnaire while making what was being referred to clearer to respondents by virtue of repeated exposure. The words "mutually agreed to" were also added to the original definition because of one of the participant's query with regard to rape and sexual assault.

No items were identified as being confusing or ambiguous by the pilot study participants. It was decided to italicize the words "female" and "male" in each item to emphasize this difference more clearly. In addition the words in each item, referring to the definitions at the top of each page of the questionnaire were printed in bold to encourage a greater focus on the definition amongst respondents. Other key words were printed in upper case and were underlined to increase the likelihood that these would all be understood in a common manner. The items were deliberately designed to be as simple, clear and concrete as possible so as to reduce subjective and idiosyncratic interpretations of items.

QUANTITATIVE ANALYSIS

Respondents

The questionnaire was administered to a convenience sample of 167 first-year psychology students at Rhodes University. This consisted of 46 males (27,5%) and 121 females (72,5%). A total of 143 questionnaires (85,6%) were sufficiently fully completed to be used in the study and 24 (14,4%) were incomplete and could not be used.

Of the 143 questionnaires which were useable, 42 (29,4%) belonged to males and 101 (70,6%) to females. It was decided to limit the study to eighteen to twenty-one year olds, which left a total of 133 questionnaires - 38 (28,6%) of these belonged to males and 95 (71,4%) to females. None of these respondents were, nor had ever been, married.

There were 56 eighteen year olds (42,1%) - 45 females and 11 males; 49 nineteen year olds (36,8%) - 33 females and 16 males; 15 twenty year olds (11,3%) - 9 females and 6 males and 13 twenty-one year olds (9,7%) - 8 females and 5 males.

Of the 95 females included in the study 90 (94,7%) identified themselves as being "heterosexual", 3 (3,2%) as being "bisexual", 1 (1%) as being "asexual", 1 (1%) as being "confused" and none (0%) as being "homosexual". Of the 38 males included in the study 35 (92,1%) identified themselves as being "heterosexual", 2 (5,3%) as being "bisexual" and 1 (2,6%) as being "homosexual".

Of the 95 females, 62 (65,2%) indicated no responsiveness whatsoever in terms of Sexual Fantasy, Sexual Attraction and Sexual Contact towards other females, while 33 (34,7%) indicated some responsiveness in one or more of these three dimensions towards other females. Of the 38 males, 27 (71%) indicated no responsiveness whatsoever in terms of Sexual Fantasy, Sexual Attraction and Sexual Contact towards other males, while 11 (29%) indicated some responsiveness in one or more of these three dimensions towards other males.

Interestingly, no female protocols revealed greater responsiveness to the same sex than that towards the opposite sex whereas 4 male protocols (10,5%) revealed greater responsiveness to the same sex than that towards the opposite sex.

Procedure

The administration was done in the final part of two consecutive psychology lectures with two different groups of students from the same class. The administration occurred during

class time and virtually all respondents completed the questionnaire in under 15 minutes. The supervision this allowed and the fact that respondents were requested to spread out across the large lecture hall reduced discussion as an extraneous variable.

The questionnaire was accompanied by a cover letter describing the nature of the study in an honest and accurate manner and explaining the anonymity of the respondents who were requested not to write their names on the questionnaires. The cover letter was read to the group and displayed on an overhead projector simultaneously. The instructions were displayed in a similar way and were also read to the group so as to increase the chances of adherence to these. The voluntary nature of participation in the study was emphasized in both the cover letter and the instructions of the questionnaire. The procedure for handing in of questionnaires was then explained to the participants who were then requested to begin reading and / or responding to the items in the questionnaire as directed in the instructions section.

The respondents appeared to have no difficulty in answering the questionnaire with only one respondent seeking assistance in understanding an item. A few respondents provided brief verbal feedback of a positive nature to the researcher on their way out of the venue after completing the questionnaire.

Data Analysis

The responses on the questionnaires were translated to summary sheets (one per questionnaire) and these were handed over to the statistics department for computer statistical analysis using the Biomedical Data Package (BMDP) and Statistica statistical software packages.

The questionnaire's internal structure was examined by such procedures as:

(1) the calculation of the following sets of descriptive data for each item: total frequency, mean, standard deviation, standard error of means and variance

(2) the calculation of Cronbach *alpha* coefficients to determine internal consistency reliability for the whole scale

(3) the calculation of squared multiple correlations to identify items which, if removed, would increase the overall internal consistency reliability of the scale and determine the effect this would have on the Cronbach *alpha* coefficient of the whole scale

(4) the calculation of Cronbach *alpha* coefficients for the original hypothesized sub-scales based on DeCecco's (1981) definition and previous scales, as described in the literature survey

(5) factor analysis construct validation to determine how many actual factors emerged, which items load for which factors and how these factors should best be interpreted

(6) the calculation of Cronbach *alpha* coefficients for each of the factors which emerged in each of the factor models, so as to determine the internal consistency reliability of each factor

(7) the calculation of squared multiple correlations for each item loading on a particular factor to identify items which, if removed, would increase the overall internal consistency reliability of that particular factor

(8) the examination and comparison of factor models to determine which model most accurately and appropriately describes the scale

(9) the calculation of factor score covariance

(10) the Kruskal-Wallis one-way ANOVA by ranks to determine whether or not the identified factors produce a significant difference in medians with regard to the following independent variables: gender, age, relational status and sexual orientation identity.

Given the limitations of time and space of a project at this level criterion-related validation (which includes concurrent validity and predictive validity) was not attempted.

CHAPTER 4

RESULTS

DESCRIPTIVE STATISTICS OF DATA

The following descriptive statistics of the data collected per item are displayed in Table 1: total frequency, mean, standard deviation, standard error of means and variance. The total frequency was calculated as the sum of the respondents who completed every item of the questionnaire.

Table 1. Descriptive statistics of data:

ITEM	TOTAL FREQ.	MEAN	STANDARD DEVIATION	ST. ERROR OF MEANS	VARIANCE
1	128	2.8750	1.0499	.09280	.36519
2	128	2.1953	1.1368	.10048	.51782
3	128	2.9844	1.0347	.09146	.34671
4	128	2.8906	.91561	.08093	.31675
5	128	2.1953	1.2171	.10757	.55439
6	128	2.4141	1.6145	.14271	.66880
7	128	2.7578	1.1484	.10151	.41642
8	128	2.0859	1.0797	.09543	.51762
9	128	3.1563	.99951	.08834	.31668
10	128	3.0313	.93857	.08296	.30963
11	128	2.1250	1.3689	.12100	.64421
12	128	1.7109	1.5326	.13546	.89576
13	128	1.1016	1.5666	.13847	1.4221
14	128	.86719	1.2061	.10660	1.3908
15	128	.92188	1.4231	.12579	1.5438

ITEM	TOTAL FREQ.	MEAN	STANDARD DEVIATION	ST. ERROR OF MEANS	VARIANCE
16	128	.83594	1.3148	.11622	1.5729
17	128	.91406	1.4582	.12889	1.5953
18	128	.81250	1.3501	.11934	1.6617
19	128	2.3203	1.5055	.13307	.64886
20	128	1.7188	1.1007	.09729	.64043
21	128	2.2734	1.4347	.12682	.63109
22	128	2.0547	1.3878	.12267	.67545
23	128	1.9141	1.4743	.13031	.77026
24	128	1.4531	1.3093	.11573	.90104
25	128	.95313	1.4300	.12640	1.5004
26	128	.96094	1.2945	.11442	1.3471
27	128	.87500	1.4253	.12598	1.6289
28	128	1.0000	1.6022	.14161	1.6022
29	128	.79688	1.3653	.12067	1.7133
30	128	.65625	1.1934	.10548	1.8185
31	128	1.8516	1.3463	.11899	.72710
32	128	1.7422	1.2375	.10938	.71032
33	128	2.0234	1.4223	.12572	.70294
34	128	2.3984	1.5540	.13735	.64791
35	128	1.6250	1.3918	.12302	.85647
36	128	1.2656	1.1871	.10493	.93795
37	128	.94531	1.5179	.13417	1.6057
38	128	.78125	1.3038	.11524	1.6688
39	128	.94531	1.5589	.13779	1.6490
40	128	.85938	1.4015	.12388	1.6309
41	128	.57031	1.2211	.10793	2.1411
42	128	.39844	.90788	.08025	2.2786
43	128	2.1250	1.6168	.14291	.76087
44	128	1.7188	1.5056	.13307	.87597
45	128	2.5000	1.6217	.14334	.64868
46	128	2.1250	1.4688	.12983	.69122
47	128	1.2188	1.5315	.13537	1.2566
48	128	.71875	1.0344	.09142	1.4391

INTERNAL CONSISTENCY RELIABILITY

Internal consistency reliability has been appropriately applied to sets of homogeneous items, that is, entities composed of equivalent units where items measure the same trait (sexual orientation) to about the same degree. 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. The Cronbach *alpha* coefficient to measure internal consistency was used to determine the internal consistency of the questionnaire. 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. 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 other items in the scale, *alpha* will be high (Cronbach, 1990).

The questionnaire was administered to a sample of 133 single, under-graduate university psychology students where an *alpha* coefficient of 0.8106 was calculated. This *alpha* indicates a good overall internal consistency for the questionnaire since Crano and Brewer (1973) recommended a minimum *alpha* coefficient of internal consistency reliability of 0.80 for Likert-type scales. The value could be marginally increased by the exclusion of items 20, 21, 22, 34, 43, 45 and 46 as is evident in Table 2 which gives the squared multiple correlations (SMC) of each variable with all other variables and Cronbach's *alpha*, with that variable removed.

Table 2. SMC of each variable with all other variables & *alpha* with that variable removed:

ITEM	SMC	*alpha*
1	0.73713	0.8029
2	0.60523	0.8055
3	0.78116	0.8056
4	0.73112	0.8057
5	0.75763	0.8062
6	0.60689	0.8086
7	0.67069	0.8052
8	0.64788	0.8034
9	0.77460	0.8091
10	0.79484	0.8087
11	0.74092	0.8055
12	0.69352	0.8047
13	0.95422	0.8053
14	0.90319	0.8065
15	0.98139	0.8066
16	0.96266	0.8064
17	0.96762	0.8059
18	0.93771	0.8076
19	0.92225	0.8094
20	**0.84517**	**0.8113**
21	**0.93177**	**0.8135**
22	**0.91168**	**0.8126**
23	0.86287	0.8076
24	0.82960	0.8058
25	0.92298	0.8062
26	0.94098	0.8070
27	0.97083	0.8051
28	0.96189	0.8090
29	0.96117	0.8071
30	0.94622	0.8077
31	0.87126	0.8067
32	0.92500	0.8055
33	0.86473	0.8090
34	**0.83804**	**0.8117**
35	0.88578	0.8030
36	0.86962	0.8032
37	0.96627	0.8080
38	0.87821	0.8060
39	0.97187	0.8081
40	0.97112	0.8076
41	0.92619	0.8057
42	0.84213	0.8085
43	**0.88244**	**0.8100**
44	0.76271	0.8061
45	**0.91043**	**0.8132**
46	**0.87697**	**0.8114**
47	0.76274	0.8074
48	0.73500	0.8078

INTERNAL CONSISTENCY AND DIMENSIONALITY

Varimax 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 does the questionnaire designed in this study as evident from the above section), 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 entail 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.

The four individual "manifestation" sub-scales included in the questionnaire (based on those suggested by DeCecco (1981) and also found in the KSOG, the MSS and to some extent in the SSSO, SDS and DSM-IV - as discussed above) do not show good internal consistency: with Emotional Attachment having a Cronbach *alpha* coefficient of 0.7752; Sexual Fantasy having a Cronbach *alpha* coefficient of 0.2489 (very poor); Sexual Attraction having a Cronbach *alpha* coefficient of 0.5795 and Sexual Contact having a Cronbach *alpha* coefficient of 0.3871 (very poor).

In light of the fact that the overall internal consistency of the questionnaire was regarded as good it was suspected that the model was either (a) uni-dimensional or (b) these four

"manifestation" sub-scales were not the correct dimensions of the scale. In order to ascertain what the correct dimensions of the scale were a factor analysis was performed.

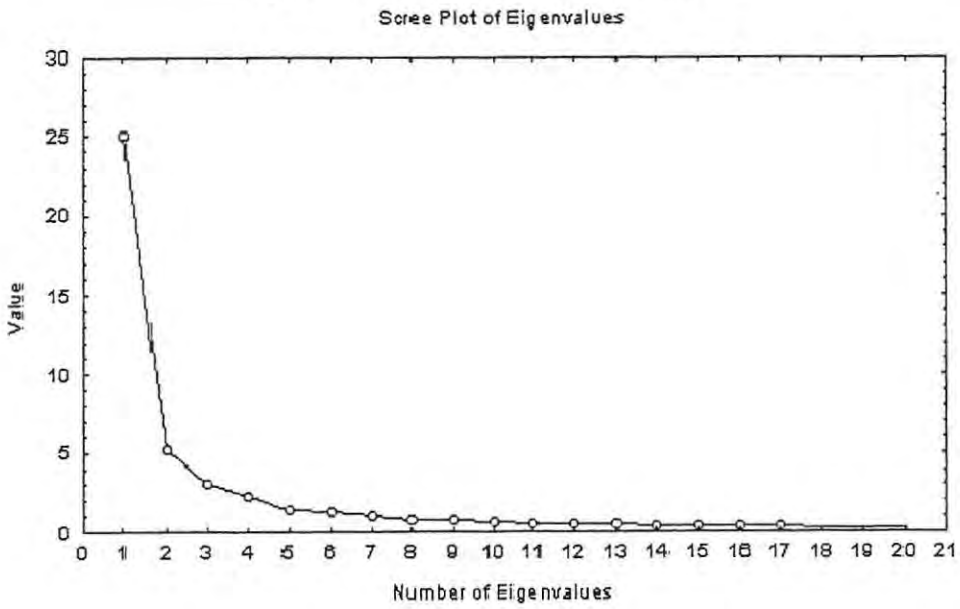
FACTOR ANALYSIS

Factor analysis, a form of ascertaining construct validity, was performed on the data. Eigenvalues are the solutions to mathematical equations which need to be solved when extracting factors and are good estimates of factors' explained variance. Although a number of factors were identified (at least 29) these were reduced to seven eigenvalues by using the Kaiser criteria which stipulates that only factors with an eigenvalue greater than 1 be used. This is illustrated in Table 3, where the relevant factors (1-7) and their eigenvalues are highlighted. This data was then translated to a scree plot of eigenvalues as shown in Figure 6. The Principal Component Method involving direct Quartimin oblique rotation suggested that either 4 or 2 factors accounted for most of the variance. Cronbach *alpha* coefficients were then calculated for the suggested 4 and 2 factors respectively to ascertain which was the most appropriate model or approach to describe the factors of the questionnaire. The data obtained in the examination of these two proposed factor models are discussed in the following sections and this is followed by an explanation of which factor model was found to be superior. For the sake of clarity the four factor model's factors have been designated Factors 1, 2, 3 and 4 while the two factor model's factors have been designated Factor A and Factor B.

Table 3. Eigenvalues

1	**25.0707**
2	**5.19316**
3	**3.10996**
4	**2.30094**
5	**1.46137**
6	**1.22938**
7	**1.02076**
8	0.774140
9	0.718463
10	0.641580
11	0.549419
12	0.499403
13	0.455812
14	0.402148
15	0.380143
16	0.375675
17	0.326043
18	0.291187
19	0.278059
20	0.256612
21	0.236742
22	0.222012
23	0.199321
24	0.189246
25	0.174417
26	0.157781
27	0.149323
28	0.134117
29	0.127413

Figure 6. Scree Plot of eigenvalues



Factor 1 - "Sexual Responsiveness to Females"

The 4-factor approach revealed that Factor 1 ("Sexual Responsiveness to Females", consisting of 18 items) had an *alpha* coefficient of 0.9894 and could be marginally improved by the removal of items 41 and 42 as is evident from Table 4 which gives the squared multiple correlations (SMC) for each Factor 1 variable with all other Factor 1 variables, and Cronbach's *alpha* with that variable removed.

Table 4. SMC of each Factor 1 variable with all other Factor 1 variables & Cronbach's *alpha* with that variable removed:

ITEM	SMC	ALPHA
13	0.93831	0.9886
14	0.87327	0.9892
15	0.97633	0.9883
16	0.95742	0.9885
17	0.95553	0.9884
18	0.90364	0.9888
25	0.91592	0.9887
26	0.92978	0.9888
27	0.95311	0.9884
28	0.95341	0.9885
29	0.94936	0.9886
30	0.92352	0.9887
37	0.95516	0.9884
38	0.83885	0.9890
39	0.95683	0.9885
40	0.95671	0.9884
41	**0.88851**	**0.9900**
42	**0.79400**	**0.9906**
ALL VARIABLES	-	**0.9894**

The following descriptive statistics of Factor 1 data are displayed in Table 5: total frequency, mean, standard deviation, standard error of means and variance.

Table 5. Descriptive statistics of Factor 1 data:

ITEM	TOTAL FREQ.	MEAN	STANDARD DEVIATION	ST. ERROR OF MEANS	VARIANCE
13	130	1.1154	1.5781	.13841	1.4149
14	130	.87692	1.2009	.10532	1.3694
15	130	.93846	1.4400	.12630	1.5345
16	130	.85385	1.3359	.11717	1.5646
17	130	.92308	1.4607	.12811	1.5824
18	130	.81538	1.3456	.11802	1.6503
25	130	.96154	1.4328	.12566	1.4901
26	130	.96923	1.2996	.11398	1.3409
27	130	.87692	1.4198	.12452	1.6190
28	130	1.0154	1.6138	.14154	1.5894
29	130	.80769	1.3702	.12017	1.6964
30	130	.66154	1.1914	.10449	1.8010
37	130	.96154	1.5321	.13437	1.5934
38	130	.80000	1.3259	.11629	1.6574
39	130	.95385	1.5595	.13677	1.6349
40	130	.86923	1.4054	.12326	1.6168
41	130	.58462	1.2313	.10799	2.1061
42	130	.42308	.95532	.08379	2.2580

Factor 2 - "Sexual Responsiveness to Males"

The 4-factor approach revealed that Factor 2 ("Sexual Responsiveness to Males", consisting of 18 items) had an *alpha* coefficient of 0.9741 and could be marginally improved by the removal of items 47 and 48 as is evident from Table 6 which gives the squared multiple correlations (SMC) for each Factor 2 variable with all other Factor 2 variables, and Cronbach's *alpha* with that variable removed.

Table 6. SMC of each Factor 2 variable with all other Factor 2 variables & Cronbach's *alpha* with that variable removed:

ITEM	SMC	ALPHA
19	0.89708	0.9715
20	0.74434	0.9727
21	0.91595	0.9719
22	0.89379	0.9720
23	0.82311	0.9723
24	0.77527	0.9732
31	0.85031	0.9722
32	0.89344	0.9717
33	0.83550	0.9720
34	0.80611	0.9720
35	0.86085	0.9724
36	0.82090	0.9730
43	0.85478	0.9724
44	0.67214	0.9734
45	0.88967	0.9717
46	0.85497	0.9719
47	**0.69107**	**0.9748**
48	**0.65392**	**0.9759**
ALL VARIABLES	-	**0.9741**

The following descriptive statistics of Factor 2 data are displayed in Table 7: total frequency, mean, standard deviation, standard error of means and variance.

Table 7. Descriptive statistics of Factor 2 data:

ITEM	TOTAL FREQ.	MEAN	STANDARD DEVIATION	ST. ERROR OF MEANS	VARIANCE
19	133	2.2857	1.5254	.13227	.66736
20	133	1.6917	1.1159	.09676	.65960
21	133	2.2331	1.4506	.12579	.64961
22	133	2.0226	1.4006	.12145	.69248
23	133	1.8872	1.4804	.12837	.78446
24	133	1.4436	1.3224	.11466	.91602
31	133	1.8346	1.3662	.11846	.74466
32	133	1.7218	1.2514	.10851	.72679
33	133	1.9850	1.4301	.12401	.72047
34	133	2.3534	1.5676	.13593	.66612
35	133	1.6090	1.3972	.12115	.86832
36	133	1.2556	1.1912	.10329	.94870
43	133	2.0977	1.6277	.14114	.77594
44	133	1.6767	1.5002	.13009	.89477
45	133	2.4511	1.6352	.14179	.66710
46	133	2.0902	1.4794	.12828	.70779
47	133	1.1955	1.5248	.13222	1.2755
48	133	.69173	1.0238	.08878	1.4801

Factor 3 - "Emotional Attachment to Females"

The 4-factor approach revealed that Factor 3 ("Emotional Attachment to Females", consisting of 6 items) had an *alpha* coefficient of 0.8403 and could be marginally improved by the removal of item 6 as is evident from Table 8 which gives the squared multiple correlations (SMC) for each Factor 3 variable with all other Factor 3 variables, and Cronbach's *alpha* with that variable removed.

Table 8. SMC of each Factor 3 variable with all other Factor 3 variables & Cronbach's *alpha* with that variable removed:

ITEM	SMC	ALPHA
1	0.56622	0.7932
2	0.35107	0.8257
3	0.55662	0.8051
4	0.57950	0.7951
5	0.51012	0.8082
6	**0.31604**	**0.8526**
ALL VARIABLES	-	**0.8403**

The following descriptive statistics of Factor 3 data are displayed in Table 9: total frequency, mean, standard deviation, standard error of means and variance.

Table 9. Descriptive statistics of Factor 3 data:

ITEM	TOTAL FREQ.	MEAN	STANDARD DEVIATION	ST. ERROR OF MEANS	VARIANCE
1	132	2.8788	1.0559	.09191	.36679
2	132	2.2121	1.1327	.09858	.51202
3	132	3.0152	1.0337	.08997	.34282
4	132	2.9091	.91179	.07936	.31343
5	132	2.1970	1.2259	.10670	.55801
6	132	2.4167	1.6017	.13941	.66278

Factor 4 - "Emotional Attachment to Males"

The 4-factor approach revealed that Factor 4 ("Emotional Attachment to Males", consisting of 6 items) had an *alpha* coefficient of 0.8372 with no items to be removed to improve on this as is evident from Table 10 which gives the squared multiple correlations (SMC) for each Factor 4 variable with all other Factor 4 variables, and Cronbach's *alpha* with that variable removed.

Table 10. SMC of each Factor 4 variable with all other Factor 4 variables & Cronbach's *alpha* with that variable removed:

ITEM	SMC	ALPHA
7	0.36701	0.8135
8	0.33642	0.8188
9	0.65184	0.8004
10	0.66860	0.7954
11	0.54907	0.7976
12	0.42575	0.8361
ALL VARIABLES	-	**0.8372**

The following descriptive statistics of Factor 3 data are displayed in Table 9: total frequency, mean, standard deviation, standard error of means and variance.

Table 11. Descriptive statistics of Factor 4 data:

ITEM	TOTAL FREQ.	MEAN	STANDARD DEVIATION	ST. ERROR OF MEANS	VARIANCE
7	132	2.7424	1.1762	.10238	.42890
8	132	2.0833	1.0845	.09440	.52058
9	132	3.1515	.99222	.08636	.31484
10	132	3.0076	.94502	.08225	.31421
11	132	2.1061	1.3662	.11981	.64870
12	132	1.7273	1.5138	.13176	.87639

Factor A - "Responsiveness to Females"

The 2-factor approach revealed that Factor A ("Responsiveness to Females", consisting of 24 items) had an *alpha* coefficient of 0.9666 and could be improved by the removal of items 1,2,3,4,5 and 6 (or the entire Factor 3 above) as is evident from Table 12 which gives the squared multiple correlations (SMC) for each Factor A variable with all other Factor A variables, and Cronbach's *alpha* with that variable removed.

Table 12. SMC of each Factor A variable with all other Factor A variables & Cronbach's *alpha* with that variable removed:

ITEM	SMC	ALPHA
1	**0.63408**	**0.9686**
2	**0.47386**	**0.9696**
3	**0.72020**	**0.9676**
4	**0.66324**	**0.9685**
5	**0.61715**	**0.9691**
6	**0.42233**	**0.9711**
13	0.94430	0.9635
14	0.88196	0.9644
15	0.97679	0.9634
16	0.95774	0.9636
17	0.96067	0.9634
18	0.91442	0.9638
25	0.91833	0.9638
26	0.93136	0.9640
27	0.95649	0.9635
28	0.95471	0.9636
29	0.95074	0.9636
30	0.92953	0.9638
37	0.95770	0.9634
38	0.83958	0.9640
39	0.96300	0.9635
40	0.96278	0.9636
41	0.91102	0.9647
42	0.80817	0.9653
ALL VARIABLES	-	**0.9666**

The following descriptive statistics of Factor A data are displayed in Table 13: total frequency, mean, standard deviation, standard error of means and variance.

Table 13. Descriptive statistics of Factor A data:

ITEM	TOTAL FREQ.	MEAN	STANDARD DEVIATION	ST. ERROR OF MEANS	VARIANCE
1	129	2.8760	1.0459	.09208	.36366
2	129	2.2093	1.1434	.10067	.51755
3	129	2.9922	1.0345	.09109	.34574
4	129	2.9815	.91207	.08030	.31544
5	129	2.2016	1.2144	.10692	.55160
6	129	2.4109	1.6086	.14163	.66725
13	129	1.1240	1.5812	.13921	1.4067
14	129	.87597	1.2055	.10614	1.3762
15	129	.94574	1.4432	.12707	1.5261
16	129	.86047	1.3390	.11789	1.5561
17	129	.93023	1.4641	.12981	1.5739
18	129	.82171	1.3489	.11876	1.6416
25	129	.96899	1.4358	.12642	1.4817
26	129	.97674	1.3018	.11462	1.3328
27	129	.88372	1.4232	.12530	1.6104
28	129	1.0233	1.6176	.14242	1.5808
29	129	.81395	1.3737	.12095	1.6877
30	129	.66667	1.1946	.10518	1.7919
37	129	.96899	1.5357	.13521	1.5849
38	129	.80620	1.3292	.11703	1.6487
39	129	.96124	1.5633	.13764	1.6263
40	129	.87597	1.4087	.12403	1.6082
41	129	.58915	1.2350	.10873	2.0962
42	129	.42636	.95831	.08437	2.2477

Factor B - "Responsiveness to Males"

The 2-factor approach revealed that Factor B ("Responsiveness to Males", consisting of 24 items) had an *alpha* coefficient of 0.9625 and could be improved by the removal of items 7,8,11 and 12 (or most of Factor 4 above) as is evident from Table 14 which gives the squared multiple correlations (SMC) for each Factor B variable with all other Factor B variables, and Cronbach's *alpha* with that variable removed.

Table 14. SMC of each Factor B variable with all other Factor B variables & Cronbach's *alpha* with that variable removed:

ITEM	SMC	ALPHA
7	**0.50973**	**0.9634**
8	**0.47988**	**0.9646**
9	0.71466	0.9615
10	0.73666	0.9613
11	**0.63141**	**0.9631**
12	**0.56439**	**0.9656**
19	0.90787	0.9592
20	0.75373	0.9601
21	0.92101	0.9596
22	0.89930	0.9597
23	0.83871	0.9596
24	0.78914	0.9604
31	0.85461	0.9598
32	0.89693	0.9595
33	0.84765	0.9597
34	0.80793	0.9596
35	0.86671	0.9598
36	0.82976	0.9603
43	0.85497	0.9599
44	0.67410	0.9608
45	0.89033	0.9595
46	0.85817	0.9596
47	0.70146	0.9615
48	0.68976	0.9624
ALL VARIABLES	-	**0.9625**

The following descriptive statistics of Factor B data are displayed in Table 15: total frequency, mean, standard deviation, standard error of means and variance.

Table 15. Descriptive statistics of Factor B data:

ITEM	TOTAL FREQ.	MEAN	STANDARD DEVIATION	ST. ERROR OF MEAN	VARIANCE
7	132	2.7424	1.1762	.10238	.42890
8	132	2.0833	1.0845	.09440	.52058
9	132	3.1515	.99222	.08636	.31484
10	132	3.0076	.94502	.08225	.31421
11	132	2.1061	1.3662	.11891	.64870
12	132	1.7273	1.5138	.13176	.87639
19	132	2.3030	1.5180	.13213	.65915
20	132	1.7045	1.1102	.09663	.65135
21	132	2.2500	1.4429	.12559	.64130
22	132	2.0379	1.3947	.12139	.68438
23	132	1.9015	1.4768	.12854	.77667
24	132	1.4545	1.3214	.11501	.90844
31	132	1.8485	1.3619	.11854	.73676
32	132	1.7348	1.2470	.10854	.71882
33	132	2.0000	1.4250	.12403	.71248
34	132	2.3712	1.5600	.13578	.65790
35	132	1.6212	1.3954	.12145	.86069
36	132	1.2652	1.1907	.10363	.94113
43	132	2.1136	1.6235	.14131	.76812
44	132	1.6894	1.4988	.13045	.88716
45	132	2.4697	1.6272	.14163	.65888
46	132	2.1061	1.4737	.12827	.69976
47	132	1.2045	1.5271	.13291	1.2677
48	132	.69697	1.0259	.08929	1.4720

FOUR FACTOR MODEL VS TWO FACTOR MODEL

The *alpha* coefficients of the 4 factors as well as those of the 2 factors are regarded as being very good, however, an examination of the items which, if removed would increase these *alpha* values, lends support to the theory that the first proposal of 4 factors is more appropriate than the second proposal of only 2 factors. This is because the items to be removed in the 2 factor model are those items that make up the whole of Factor 3 ("Emotional Attachment to Females") and the bulk of Factor 4 ("Emotional Attachment to Males") in the four factor model.

On the basis of the above it was decided that the 4-factor approach was most appropriate for the questionnaire. The items would load on these four factors as follows:
Factor 1 ("Sexual Responsiveness to Females") includes items 13, 14, 15, 16, 17, 18, 25, 26, 27, 28, 29, 30, 37, 38, 39, 40, 41 and 42. Factor 2 ("Sexual Responsiveness to Males") includes items 19, 20, 21, 22, 23, 24, 31, 32, 33, 34, 35, 36, 43, 44, 45, 46, 47 and 48. Factor 3 ("Emotional Attachment to Females") includes items 1, 2, 3, 4, 5 and 6. Factor 4 ("Emotional Attachment to Males") includes items 7, 8, 9, 10, 11 and 12. This is illustrated in Table 16.

Table 16. Rotated factor loadings (pattern):

ITEM	FACTOR 1 Sexual Responsiveness to Females	FACTOR 2 Sexual Responsiveness to Males	FACTOR 3 Emotional Attachment to Females	FACTOR 4 Emotional Attachment to Males
1	0.140	0.122	**0.824**	-0.050
2	0.048	0.087	**0.673**	0.036
3	0.182	-0.049	**0.743**	-0.032
4	0.064	-0.023	**0.808**	-0.057
5	-0.028	-0.089	**0.782**	0.044
6	-0.148	-0.018	**0.580**	0.080
7	-0.018	0.040	0.059	**0.680**
8	0.167	0.090	-0.003	**0.698**
9	-0.397	0.052	0.132	**0.599**
10	-0.321	0.113	0.043	**0.611**
11	-0.032	0.009	-0.046	**0.816**
12	0.139	-0.109	0.007	**0.808**
13	**0.915**	-0.036	0.077	0.047
14	**0.937**	0.069	-0.054	0.001
15	**0.938**	-0.078	-0.007	0.069
16	**0.951**	-0.028	-0.024	0.048
17	**0.937**	-0.045	0.036	0.045
18	**0.842**	-0.133	0.049	0.056
19	-0.289	**0.694**	0.044	0.055
20	-0.321	**0.586**	0.031	0.052
21	-0.477	**0.553**	0.055	-0.009
22	-0.422	**0.564**	0.032	0.017
23	-0.168	**0.656**	-0.002	0.192
24	-0.027	**0.699**	0.019	0.172
25	**0.966**	0.043	-0.038	-0.005
26	**0.969**	0.065	-0.083	-0.028
27	**0.979**	0.018	0.006	0.039
28	**0.887**	-0.098	-0.008	-0.042
29	**0.918**	0.001	0.034	-0.080
30	**0.917**	0.025	0.014	-0.125
31	0.022	**0.929**	-0.050	-0.066
32	0.038	**0.977**	-0.018	-0.071
33	-0.176	**0.806**	0.043	-0.079
34	-0.359	**0.638**	0.047	-0.006
35	0.179	**0.982**	-0.057	0.039
36	0.168	**0.936**	0.011	0.027
37	**0.884**	-0.090	0.054	-0.051
38	**0.873**	-0.011	0.075	0.011
39	**0.852**	-0.169	0.044	0.040
40	**0.922**	-0.098	-0.042	0.057
41	**0.764**	0.037	0.187	-0.060
42	**0.630**	-0.102	0.177	-0.019
43	-0.229	**0.681**	-0.001	0.029
44	-0.032	**0.769**	0.136	-0.035
45	-0.489	**0.560**	0.093	-0.012
46	-0.362	**0.628**	0.047	-0.006
47	0.025	**0.562**	-0.151	0.255
48	-0.023	**0.409**	-0.070	0.323

FACTOR SCORE COVARIANCE

Factor score covariance is computed from factor structure and factor score coefficients. The diagonal of the matrix below contains the squared multiple correlations of each factor with the variables:

Table 17. Factor score covariance:

	FACTOR 1: Sexual Responsive-ness to Females	FACTOR 2: Sexual Responsive-ness to Males	FACTOR 3: Emotional Attachment to Females	FACTOR 4: Emotional Attachment to Males
FACTOR 1: Sexual Responsiveness to Females	1.000			
FACTOR 2: Sexual Responsiveness to Males	-0.589	1.000		
FACTOR 3: Emotional Attachment to Females	0.131	0.008	1.000	
FACTOR 4: Emotional Attachment to Males	-0.159	0.363	0.049	1.000

From the above it is evident that there is a positive correlation between Factor 2 ("Sexual Responsiveness to Males") and Factor 3 ("Emotional Attachment to Females") of 0.008. Factor 2 ("Sexual Responsiveness to Males") and Factor 4 ("Emotional Attachment to Males") have a positive correlation of 0.363. Factor 3 ("Emotional Attachment to Females") and Factor 4 ("Emotional Attachment to Males") have a positive correlation of 0.049. Factor 1 ("Sexual Responsiveness to Females") and Factor 3 ("Emotional

Attachments to Females") also have a positive correlation of 0.131. There is a negative correlation of -0.589 between Factor 1 ("Sexual Responsiveness to Females") and Factor 2 ("Sexual Responsiveness to Males"). Another negative correlation of -0.159 exists between Factor 1 ("Sexual Responsiveness to Females") and Factor 4 ("Emotional Attachment to Males").

THE KRUSKAL-WALLIS ONE-WAY ANALYSIS OF VARIANCE BY RANKS

The Kruskal-Wallis one-way analysis of variance by ranks, which is a non-parametric test, was applied to the four factors which were identified by means of factor analysis in order to determine whether or not the identified factors produce a significant difference in medians with regard to the following independent variables: gender (male / female), age (18 / 19 / 20 / 21), status (single / going steady / cohabiting) and sexual orientation identity (asexual / heterosexual / homosexual / bisexual / confused).

The Kruskal-Wallis one-way ANOVA by ranks is an extremely useful test for deciding whether a certain number (*k*) of independent samples are from different populations. Sample values almost invariably differ somewhat, and the question is whether the differences among the samples signify genuine population differences or whether they represent merely the kind of variations that are to be expected among random samples from the same population. The Kruskal-Wallis technique tests the null hypothesis that the *k* samples come from the same population or from identical populations with the same median. In applying the Kruskal-Wallis one-way analysis of variance by ranks, the data are cast into a two-way table with each column representing each successive sample (Siegel & Castellan, 1988).

The null hypothesis is rejected if the p-value < 0.05. This would suggest that there is a significant difference in the medians of the groups. A p-value < 0.05, therefore, suggests that the groups do not come from the same population (or from populations with the same medians). If the p-value > 0.05 we fail to reject the null hypothesis and there is insufficient evidence to suggest that the medians of the groups are not equal. This suggests the possibility that the groups are, in fact, part of the same population (or from populations with the same medians).

Gender

Table 18. Kruskal-Wallis ANOVA by ranks with gender as the independent variable:

FACTOR	MALE	FEMALE	TOTAL	KW	p
1	36	94	130	79.58240	.0000
2	38	95	133	62.07907	.0000
3	38	94	132	.8801126	.3482
4	37	95	132	2.182816	.0065

For Factors 1 ("Sexual Responsiveness to Females"), 2 ("Sexual Responsiveness to Males") and 4 ("Emotional Attachment to Males") the p-value < 0.05, and as a result the null hypothesis, that the two gender groups come from the same population (or from populations with the same medians), is rejected. There is, therefore, a significant difference in medians between the two gender groups for these three factors.

For Factor 3 ("Emotional Attachment to Females") the p-value > 0.05 and there is, therefore, insufficient evidence of a significant difference in medians between the two gender groups (allowing for the possibility that they could come from the same population).

Age

Table 19. Kruskal-Wallis ANOVA by ranks with age as the independent variable:

FACTOR	18 years	19 years	20 years	21 years	TOTAL	KW	p
1	55	47	15	13	130	2.182816	.5353
2	56	49	15	13	133	3.180534	.3646
3	56	49	15	12	132	10.09047	.0178
4	56	49	14	13	132	.3546392	.9494

For Factors 1 ("Sexual Responsiveness to Females"), 2 ("Sexual Responsiveness to Males") and 4 ("Emotional Attachment to Males") the p-value < 0.05, and as a result the null hypothesis, that the four age groups come from the same population (or from populations with the same medians), is rejected. There is, therefore, a significant difference in medians between the four age groups for these three factors.

For Factor 3 ("Emotional Attachment to Females") the p-value > 0.05 and there is, therefore, insufficient evidence of a significant difference in medians between the two gender groups (allowing for the possibility that they could come from the same population).

Status

Table 20. Kruskal-Wallis ANOVA by ranks with status as the independent variable:

FACTOR	SINGLE	STEADY	COHABIT	TOTAL	KW	p
1	91	38	1	130	.9902074	.6095
2	93	39	1	133	2.808169	.2456
3	92	39	1	132	2.356964	.3078
4	92	39	1	132	9.857528	.0072

For Factors 1 ("Sexual Responsiveness to Females"), 2 ("Sexual Responsiveness to Males") and 3 ("Emotional Attachment to Females") p-value > 0.05 and there is, therefore, insufficient evidence of a significant difference in medians between the three status groups.

Factor 4 ("Emotional Attachment to Males") has a p-value < 0.05 suggesting that there is a significant difference in the medians of the three status groups where this factor is concerned.

Sexual Orientation Identity

Table 21. Kruskal-Wallis ANOVA by ranks with sexual orientation identity as the independent variable:

FACT.	ASEX.	HET.	HOM.	BI.	CONF.	TOTAL	KW	p
1	1	122	1	4	1	129	5.13165	.2741
2	1	125	1	4	1	132	6.60449	.1584
3	1	124	1	4	1	131	2.62569	.6223
4	1	124	1	4	1	131	5.88905	.2076

In all four factors the p-values > 0.05, and the null hypothesis is, therefore, not rejected. This suggests that there is insufficient evidence of a significant difference in medians between the five sexual orientation identity groups. The large number of heterosexuals relative to the numbers of other sexual orientation identities included in the study should be noted here, however.

CHAPTER 5

DISCUSSION

A questionnaire has been constructed which successfully overcomes the three major criticisms leveled at the Kinsey Heterosexual-Homosexual Continuum (KHHS) in the literature. No subsequent single measure of sexual orientation has simultaneously addressed all three of these theoretical dilemmas and thus allowed for sexual orientation to be comprehensively conceptually and operationally defined and measured in a manner which could potentially satisfy all the major criteria which have been applied to this area of research over the last 50 years. This synthesis represents a step towards reaching a much needed consensus on the currently highly controversial and diversely defined concept of sexual orientation which is necessary if this area is to be thoroughly researched and understood in future.

Preliminary determinants of the psychometric properties were very positive. Reliability (specifically internal consistency reliability), for the questionnaire as a whole, was determined by the calculation of Cronbach's *alpha* coefficient. This registered an *alpha* value of 0.8106, which is regarded as being acceptable as it exceeds the recommended minimum of 0.8 for Likert-type scales (Crano & Brewer, 1973). Seven items were identified which if removed could marginally increase the internal consistency reliability of the questionnaire in future revisions.

The questionnaire's four hypothesized 'sub-scales' (which were originally proposed, on the basis of the literature survey and DeCecco's (1981) definition of sexual orientation) were found to have less acceptable internal consistency reliabilities. The Cronbach *alpha*

values of Emotional Attachment (0.7752), Sexual Fantasy (0.2489), Sexual Attraction (0.5795) and Sexual Contact (0.3871) ranged from fair to very poor.

In assessing the construct validity of the questionnaire, by performing a factor analysis (a correlational approach to factor structure), and examining and comparing factor models, four different factors to the original 'sub-scales' emerged as successfully accounting for the intercorrelations among the item scores. In contrast to the hypothesized ' sub-scales' all four of these factors were found to have acceptable internal consistency reliabilities. The Cronbach *alpha* coefficients of "Sexual Responsiveness to Females" (0.9894), "Sexual Responsiveness to Males" (0.9741), "Emotional Attachment to Females" (0.8403) and "Emotional Attachment to Males" (0.8372) all exceeded the minimum of 0.8. Because of the design of the questionnaire and the manner in which these factors overlap with the original 'subscales' no item changes, omissions or additions or structural modifications to the questionnaire are necessary or recommended in order to ensure a greater construct validity. The fact that four factors, which together incorporate all 48 items in the questionnaire, were found to account for most of the variance in the scores suggests that the questionnaire is a valid measurement tool.

Although the forms of reliability and validity determined appear respectable these statistics represent only one form of reliability and one form of validity and would need to be augmented by determining other forms of reliability (e.g. test-retest) and validity (e.g. content construct validity and criterion-related validity such as concurrent validity and predictive validity).This is necessary to determine whether these test statistics are conclusive and / or decisive or not.

The fact that "Sexual Responsiveness to Females" and "Sexual Responsiveness to Males" emerged as separate factors suggests that the researcher was justified in measuring these two dimensions independently of one another. The fact that "Emotional Attachment" and "Sexual Responsiveness" factors were also differentiated justifies these not being lumped together or assumed to be part of a single construct in the conceptualization and measurement of sexual orientations. The fact that Sexual Contact, Sexual Fantasy and Sexual Attraction did not emerge as separate factors suggests that these may be different aspects of a single construct (possibly "Sexual Responsiveness" or "Self-reported Sexual Responsiveness"). Similarly the Past, Present and Future dimensions of responsiveness did not emerge as separate factors suggesting that in a predominantly heterosexual sample of adolescents sexual orientation may be a relatively stable phenomenon. Further subtle refinements to the items comprising these dimensions may result in different results in future.

The administration of the questionnaire to larger and more varied or representative samples in a variety of settings in future research is needed to further the process of assessing its validity and reliability. Preliminary use and initial testing has been positive, however, suggesting that this measurement tool may be a valuable aid in our understanding of and research into sexual orientations in future.

APPENDIX A

SEXUAL ORIENTATION MEASURE

INTRODUCTION

This is a survey to explore how various components and dimensions of sexual orientations tend to inter-relate. Sexual orientation is not a very well understood or researched field within psychology and this is an attempt to fill in some of the blanks in an area which is both fascinating to most human beings and central to our understandings of how we function. Our sexual orientation is an integral part of our individual identities and as such an important factor in determining how we relate with one another.

At the same time our individual sexual orientations can be a very sensitive and personal issue which we could tend to guard very carefully. Societal discrimination and prejudice with regard to sexual orientation has led to a lack of understanding of this area and many myths and misconceptions have abounded. Hopefully this study will contribute to a better understanding of this part of our make-up and thus clear up many of the false ideas which are so prevalent and which prevent people from really understanding and dealing with issues and problems which arise in this vital area of their development.

As we are interested in studying **general** human sexual orientation we do not need to know exactly who you are. Please do **NOT** write your name anywhere on this questionnaire. Your anonymity and confidentiality can then be guaranteed and hopefully you will realize that there is **no** need to feel threatened by some of the personal questions posed as there will be no means of identifying who you are as an individual. You can be as honest as you are able to.

To further protect your anonymity we ask **everyone** to please cover their responses and not to communicate at all while the questionnaires are still in your possession. Once you have completed them you can return them to any of the collection boxes at the front of the venue and place them on top, underneath or anywhere in the middle of the piles of questionnaires in the boxes.

Please note that participation is voluntary and you will not be disadvantaged in any way should you choose not to participate. It should take approximately 20 minutes to complete.

The questionnaire is not designed to trick you in any way. The questions are very straightforward and self-evident and are deliberately designed to be easily understood and to the point. I hope you enjoy filling it in and that you learn something about sexual orientations while doing so. Should you be interested in finding out how to view the results of the research please feel free to contact the coordinator at:
lheath@vphs.ecape.school.za.

INSTRUCTIONS

(1) Please be as truthful as possible even though this may require careful concentration, an ability to ability to be honest with yourself and having to really thinkl about some issues you may not normally have to think about.

(2) Please be careful to answer all questions as questionnaires which are in any way incomplete will be less useful to the study.

(3) Please utilize your right to freedom of expression by refusing to answer this questionnaire if it in any way offends or disturbs you. You are welcome to peruse it while others are filling it in if you would like to.

(4) Please **circle** the most correct (or closest to correct) option available under each item, including the items under the "Demographics" section below to indicate your response.

(5) If you circle an incorrect response and wish to change it please scratch out your first response and circle the preferred or better one.

THANK YOU FOR YOUR CONTRIBUTION TO PSYCHOLOGICAL RESEARCH!

DEMOGRAPHICS

My gender is

Male Female

My age is

16 17 18 19 20 21 22 23 24 25 26 27 28+

My current relational status is

Single Going Steady Married Divorced

Widowed Separated Cohabiting/Living Together

My sexual orientation could best be described as being

Asexual Heterosexual Homosexual Bisexual Confused

EMOTIONAL ATTACHMENT

ANY DEEP, CLOSE AND MEANINGFUL RELATIONSHIP INVOLVING AFFECTION, LOVE AND TRUST WITH PEERS, FRIENDS, LOVERS AND/OR PARTNERS WHICH MAY OR MAY NOT INCLUDE PHYSICAL SEXUAL ACTIVITY.

(1) I would describe my STRONGEST ever **emotional attachment** with *a female* (since age 12) as being _____.

non-existent weak moderate strong very strong

(2) I have had _____ **emotional attachment/s** with *a female / females* (since age 12).

no 1 2 - 4 5 - 7 more

(3) In future I hope my MOST intense **emotional attachment/s** with *a female / females* will be _____.

non-existent weak moderate strong very strong

(4) In future I hope to _____ spend time with *a female / females* who I am **emotionally attached** to.

never seldom sometimes often very often

(5) Over the last month I would describe my MOST intense **emotional attachment** to *a female / females* as being _____.

non-existent weak moderate strong very strong

(6) Over the last month I have spent time with *a female / females* who I am **emotionally attached** to _____.

never less than once a week 1 - 3 times a week 4 - 6 times a week daily

EMOTIONAL ATTACHMENT

ANY DEEP, CLOSE AND MEANINGFUL RELATIONSHIP INVOLVING AFFECTION, LOVE AND TRUST WITH PEERS, FRIENDS, LOVERS AND/OR PARTNERS WHICH MAY OR MAY NOT INCLUDE PHYSICAL SEXUAL ACTIVITY.

(7) I would describe my STRONGEST ever **emotional attachment** with *a male* (since age 12) as being _____.

non-existent weak moderate strong very strong

(8) I have had _____ **emotional attachment/s** with *a male / males* (since age 12).

no 1 2 - 4 5 - 7 more

(9) In future I hope my MOST intense **emotional attachment/s** with *a male / males* will be _____.

non-existent weak moderate strong very strong

(10) In future I hope to _____ spend time with *a male / males* who I am **emotionally attached** to.

never seldom sometimes often very often

(11) Over the last month I would describe my MOST intense **emotional attachment** to *a male / males* as being _____.

non-existent weak moderate strong very strong

(12) Over the last month I have spent time with *a male / males* who I am **emotionally attached** to _____.

never less than once a week 1 - 3 times a week 4 - 6 times a week daily

SEXUAL ATTRACTION

THE DESIRE, URGE OR WANT TO ENGAGE IN OR FANTASIZE ABOUT SEXUAL CONTACT (INCLUDING INTIMATE KISSING, PETTING, MASTURBATION, ORAL SEX, INTERCOURSE AND SO ON) WITH ONE OR MORE PERSONS ENCOUNTERED IN PERSON OR AT A DISTANCE OR VIA ANY FORM OF MEDIA.

(13) I would describe my STRONGEST ever **sexual attraction** towards *a female* (since age 12) as being _____.

non-existent weak moderate strong very strong

(14) I have generally (since age 12) found approximately _____ out of every 10 *females* that I encounter **sexually attractive**.

0 less than 1 1 - 3 4 - 6 7 - 10

(15) In future I hope my **sexual attraction** towards *a female / females* will generally be _____.

absent weak moderate strong very strong

(16) In future I hope to _____ find myself feeling **sexually attracted** to a *female / females*.

never seldom sometimes often very often

(17) Over the last month the MOST **sexual attraction** I have felt towards *a female / females* was _____.

non-existent weak moderate strong very strong

(18) Over the last month I have felt **sexually attracted** towards *a female / females* _____.

never less than once a week 1 - 3 times a week 4 - 6 times a week daily

SEXUAL ATTRACTION

THE DESIRE, URGE OR WANT TO ENGAGE IN OR FANTASIZE ABOUT SEXUAL CONTACT (INCLUDING INTIMATE KISSING, PETTING, MASTURBATION, ORAL SEX, INTERCOURSE AND SO ON) WITH ONE OR MORE PERSONS ENCOUNTERED IN PERSON OR AT A DISTANCE OR VIA ANY FORM OF MEDIA.

(19) I would describe my STRONGEST ever **sexual attraction** towards *a male* (since age 12) as being _____.

non-existent weak moderate strong very strong

(20) I have generally (since age 12) found approximately _____ out of every 10 *males* that I encounter **sexually attractive**.

0 less than 1 1 - 3 4 - 6 7 - 10

(21) In future I hope my **sexual attraction** towards *a male / males* will generally be _____.

absent weak moderate strong very strong

(22) In future I hope to _____ find myself feeling **sexually attracted** to a *male / males*.

never seldom sometimes often very often

(23) Over the last month the MOST **sexual attraction** I have felt towards *a male / males* was _____.

non-existent weak moderate strong very strong

(24) Over the last month I have felt **sexually attracted** towards *a male / males* _____.

never less than once a week 1 - 3 times a week 4 - 6 times a week daily

SEXUAL FANTASY

DELIBERATE OR INVOLUNTARY IMAGINING OR PICTURING OF ONE OR MORE PERSONS ENGAGED IN PHYSICAL SEXUAL ACTIVITY (INCLUDING INTIMATE KISSING, PETTING, MASTURBATION, ORAL SEX, INTERCOURSE AND SO ON). THIS MAY OR MAY NOT INCLUDE MASTURBATORY FANTASIES, DAYDREAMS, DREAMS, VIEWING PORNOGRAPHY, SEXUAL MEMORIES AND SO ON.

(25) I would describe my MOST arousing **sexual fantasies** involving *a female / females* (since age 12) as being _____ arousing.

not at all weakly moderately strongly very strongly

(26) I have _____ had **sexual fantasies** involving a *female / females* (since age 12).

never seldom sometimes often very often

(27) In future I hope my **sexual fantasy** life involving *a female / females* will be _____ arousing.

not at all weakly moderately strongly very strongly

(28) In future I hope my **sexual fantasy** life will _____ involve *a female / females.*

never seldom sometimes often very often

(29) Over the last month my MOST arousing **sexual fantasies** involving *a female / females* have been _____ arousing.

not at all/ not applicable slightly moderately strongly very strongly

(30) Over the last month I have had **sexual fantasies** involving *a female / females* approximately _____.

never less than once a week 1 - 3 times a week 4 - 6 times a week daily

SEXUAL FANTASY

DELIBERATE OR INVOLUNTARY IMAGINING OR PICTURING OF ONE OR MORE PERSONS ENGAGED IN PHYSICAL SEXUAL ACTIVITY (INCLUDING INTIMATE KISSING, PETTING, MASTURBATION, ORAL SEX, INTERCOURSE AND SO ON). THIS MAY OR MAY NOT INCLUDE MASTURBATORY FANTASIES, DAYDREAMS, DREAMS, VIEWING PORNOGRAPHY, SEXUAL MEMORIES AND SO ON.

(31) I would describe my MOST arousing **sexual fantasies** involving *a male / males* (since age 12) as being _____ arousing.

not at all weakly moderately strongly very strongly

(32) I have _____ had **sexual fantasies** involving a *male / males* (since age 12).

never seldom sometimes often very often

(33) In future I hope my **sexual fantasy** life involving *a male / males* will be _____ arousing.

not at all weakly moderately strongly very strongly

(34) In future I hope my **sexual fantasy** life will _____ involve *a male / males.*

never seldom sometimes often very often

(35) Over the last month my MOST arousing **sexual fantasies** involving *a male / males* have been _____ arousing.

not at all/ not applicable slightly moderately strongly very strongly

(36) Over the last month I have had **sexual fantasies** involving *a male / males* approximately _____.

never less than once a week 1 - 3 times a week 4 - 6 times a week daily

SEXUAL CONTACT

ENGAGING IN PHYSICAL SEXUALACTIVITY INVOLVING MUTUALLY AGREED TO BODY CONTACT (INCLUDING INTIMATE KISSING, PETTING, MASTURBATION, ORAL SEX, INTERCOURSE AND SO ON) WITH ONE OR MORE PERSONS.

(37) I would describe my MOST pleasurable **sexual contact** with *a female / females* (since age 12) as being _____ pleasurable.

not at all slightly moderately strongly very strongly

(38) I have **sexual contact** with *females* (since age 12).

no 1 2 - 4 5 - 8 more

(39) In future I hope to have _____ pleasurable **sexual contact** with *a female / females.*

no slightly moderately strongly very strongly

(40) In future I hope to have **sexual contact** with *a female / females* _____.

never seldom sometimes often very often

(41) Over the last month my MOST pleasurable **sexual contact** with *a female / females* has been _____ pleasurable.

not at all/ not applicable slightly moderately strongly very strongly

(42) Over the last month I have had **sexual contact** with *a female / females* _____.

never less than once a week 1 - 3 times a week 4 - 6 times a week daily

SEXUAL CONTACT

ENGAGING IN PHYSICAL SEXUALACTIVITY INVOLVING MUTUALLY AGREED TO BODY CONTACT (INCLUDING INTIMATE KISSING, PETTING, MASTURBATION, ORAL SEX, INTERCOURSE AND SO ON) WITH ONE OR MORE PERSONS.

(43) I would describe my MOST pleasurable **sexual contact** with *a male / males* (since age 12) as being _____ pleasurable.

not at all slightly moderately strongly very strongly

(44) I have **sexual contact** with *males* (since age 12).

no 1 2 - 4 5 - 8 more

(45) In future I hope to have _____ pleasurable **sexual contact** with *a male / males.*

no slightly moderately strongly very strongly

(46) In future I hope to have **sexual contact** with *a male / males* _____.

never seldom sometimes often very often

(47) Over the last month my MOST pleasurable **sexual contact** with *a male / males* has been _____ pleasurable.

not at all/ not applicable slightly moderately strongly very strongly

(48) Over the last month I have had **sexual contact** with *a male / males* _____.

never less than once a week 1 - 3 times a week 4 - 6 times a week daily

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