

**Perceptions of Primary and Secondary Control in
Lesbian/Gay and Heterosexual Samples**

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We the undersigned declare that the above-named research project has been completed as described in the Application for Ethics Approval and in accordance with the ethics guidelines of Deakin University.

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Abstract

Due to stigmatisation, lesbian women and gay men, referred to as lesbians and gays, often encounter victimisation and discrimination. Victimization has shown to impact negatively on perceptions of control, a variable posited as essential for subjective quality of life. The present study examined primary and secondary control processes in a group of 85 lesbians and gays, and a comparison group of 83 heterosexual women and men, recruited through friendship networks and lesbian and gay discussion groups. Primary and secondary control were conceptualised as the perceived ability to act upon the environment, or cognitively adjust oneself to the environment, respectively. As predicted, primary control made a greater contribution to subjective quality of life in both groups, compared to secondary control. Although lesbians and gays exhibited higher rates of victimisation, compared to heterosexuals, contrary to the hypotheses no group differences emerged on primary and secondary control. Interestingly, however, the prediction of a relationship between primary and secondary control was only supported within the lesbian and gay group. This suggests that, unlike heterosexuals, these respondents more commonly utilise both processes in an attempt to accommodate an often discriminatory environment. This finding has implications for the theoretical proposal that both processes are related.

Introduction

It would be easy to assume that lesbians and gays enjoy a high quality of life. Media coverage of lesbian and gay events, such as the Sydney Mardi Gras, depict a fun-loving community and marketing devices are now targeting the “pink dollar” in an attempt to access their greater disposable income. Income, however, has only a poor association with subjective quality of life, and typical media coverage masks the reality that many lesbians and gays are subject to victimisation and discrimination due to their stigmatised position. It has been shown that victimisation impacts negatively on perceptions of control, a variable posited as essential for subjective quality of life.

Four control constructs, internal and external locus of control (Rotter, 1966), and primary and secondary control (Rothbaum, Weisz & Snyder, 1982), are the focus of the current study for two reasons. First, empirical attention to the relationships between these constructs is sorely lacking. Second, differences between lesbians/gays and heterosexuals, in regard to these constructs, has yet to be examined. These issues will be examined in the latter part of this paper. First, an introduction to the quality of life construct is presented.

1.0 Quality of Life

1.1 Definitions

Objective quality of life refers to objective norm referenced measures of social indicators such as income, employment and health status (Diener, 1984). Subjective quality of life (SQOL) refers to one’s perceived satisfaction with these objective indicators, therefore relying on “the standard of the respondent to determine what is the good life” (Diener, p.543). SQOL has been conceptualised as wellbeing (Diener), life satisfaction (Zhan, 1992, Andrews & Withey, 1976, Cummins, 1997, in press) and happiness (Headey & Wearing, 1992). This construct is believed to consist of both cognitive and affective components (Andrews & Robinson, 1991).

The cognitive component is a judgemental appraisal of one’s life (Andrews & Robinson, 1991), possibly involving an intellectual process of comparing aspirations against achievements (Campbell, Converse & Rodgers, 1976).

The affective component is an appraisal of one's emotional life, and includes both positive and negative affect (Andrews & Robinson, 1991). Although there is a degree of overlap, instruments that measure happiness tap the affective component of SQOL, whereas instruments that measure satisfaction tap the cognitive component (Andrews & McKennell, 1980).

Although some researchers conceptualise quality of life in subjective terms only (e.g., Fabian, 1990), others (e.g., Cummins, 1997), argue that it is a combination of both objective and subjective indices. This is a valid proposal, as a consistent and long documented finding in the literature is that objective status is a poor indicator of SQOL (Diener, 1984). Generally, objective measures such as education, income, marital status, and age, account for a maximum of 10 percent of the variance in SQOL (Andrews & Withey, 1976). Another consistent finding is that SQOL, when measured in large general population samples, is consistently high.

1.2 The Distribution of Subjective Quality of Life

Most people make positive evaluations in regard to their satisfaction with life conditions (Cummins, 1995). Headey and Wearing (1987), for example, found that when people were requested to rate their "own life at present" on a 0 (worst life anybody could live) to 20 (best life anybody could live) scale, the average rating was 15.0.

In an attempt to define a normative level of life satisfaction, Cummins' (1995) analysed 16 different data sets from six western countries. For comparative purposes, he converted scale scores to a common statistic - the percent of scale maximum (%SM). This expresses a Likert scale score as a percentage of the total scale, ranging from zero to one hundred. Consistent with literature indicating high levels of SQOL, the combination of data yielded a mean of 75.02 %SM, with a standard deviation of 2.74.

Cummins' (1995) finding of a "gold standard" for normative life satisfaction provides a reference point for evaluating empirical studies. Given the various conceptualisations of SQOL this is an important finding, as numerous scales exist purporting to measure objective quality of life, SQOL, or both.

1.3 Measuring Quality of Life

Quality of life can be viewed as a unidimensional or multidimensional construct (Cummins, 1997). Viewed unidimensionally, SQOL is measured globally by asking single item questions about happiness, satisfaction or more general well-being (Diener, 1984). This approach, however, is unable to yield data on an objective axis (Cummins), and cannot be subjected to internal reliability tests due to the single item wording (Diener). Consequently, multi-item measures of global quality of life have been devised (e.g., Diener, Emmons, Larsen & Griffen, 1985). Although these measures overcome the problems associated with reliability tests, the unidimensional approach fails to offer a differentiated view of subjective life quality (Diener, 1984).

Viewing quality of life as a multidimensional construct, broken down into a number of constituent life domains, and measured on a subjective and objective level, provides a differentiated view of life quality (Cummins, 1997, in press). Unfortunately, however, there is little consensus on either the number or content of these domains. Additionally, many proposals lack empirical substantiation. Meeberg (1993), for example, maintains that quality of life includes the mental ability to evaluate one's life, perceived satisfaction with physical, mental, emotional and social health, and adequate living conditions, according to an independent observer. These criterion, according to Meeberg, were based on common characteristics gleaned from a literature review. But such an approach, which merely involved consulting a Webster's Dictionary, and the work of some prominent researchers, is startling in its lack of empiricism.

1.4 A Proposed Quality of Life Definition

Cummins (1997, in press), proposed that quality of life consists of seven domains: material well-being, health, productivity, intimacy, safety, community and emotional well-being. In a review of 27 definitions that attempted to identify quality of life domains, he found that 85 percent included a domain associated with emotional well-being, 70 percent health, 70 percent intimacy, 59 percent material well-being, 56 percent productivity, 22 percent safety and 30 percent community, thereby supporting his proposal.

Further empirical support was provided by population survey data which requested respondents to indicate which domains were important to them (Cummins, 1997, in press). It was found that 78-97 percent of respondents rated the domains of health, intimacy, emotional well-being, material well-being and productivity as being very, or extremely, important to them. Fifty five to eighty percent of respondents rated these domains as being important, or very important, to them. In addition to further empirical support, this finding indicates that respondents attach varying degrees of importance to life domains.

In an attempt to include these life domains, utilise both objective and subjective axes, and incorporate perceived domain importance into SQOL assessment, Cummins (1997) proposed the following quality of life definition.

“Quality of life is both objective and subjective, each axis being the aggregate of seven domains: material well-being, health, productivity, intimacy, safety, community and emotional well-being. Objective domains comprise culturally relevant measures of objective well-being. Subjective domains comprise domain satisfaction weighted by their importance to the individual” (p.11).

The Comprehensive Quality of Life Scale (ComQol: Cummins, 1993) utilises this definition to operationalise quality of life, and shall be employed in the current study.

To summarise, the objective component of quality of life measures social indicators, the subjective component, well-being, happiness or satisfaction. Interestingly, people report that they are well satisfied with their life conditions. The quality of life construct can be viewed as either unidimensional and measured globally, or multidimensional and measured according to a number of life domains. Strong empirical and theoretical support suggests seven such domains. The relative independence of subjective and objective indices has led researchers to examine the relationship between SQOL and internal variables. One variable that has received considerable attention is perceived control.

2.0 Perceived Control

2.1 Research in the General Area of Perceived Control

The psychological literature is replete with evidence illustrating the importance of perceived control for SQOL (see Shapiro, Schwartz & Austin, 1996, for an overview). Indeed, it has been shown that control, conceptualised as the perceived ability to organise, plan and control one's life, has a larger causal effect on life satisfaction than personality, health and social support variables (Headey, Holmstrom & Wearing, 1984).

A host of constructs fall under the rubric of control. These have been extensively documented elsewhere (e.g., Skinner, 1996), but include internal-external locus of control (Rotter, 1966), primary and secondary control (Rothbaum et al., 1982), actual and perceived control (Glass & Singer, 1972), and behavioural, cognitive and decisional control (Averill, 1973). Related constructs include: helplessness (Seligman, 1975), self-efficacy (Bandura, 1977), a sense of mastery and personal competence (De Charms, 1968), and problem and emotion focused coping (Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1986).

As Skinner (1996) argues, an integrative framework incorporating these varied conceptualisations is essential for comparative research and future investigation. With this purpose, the relationship between Rotter's (1966) internal-external locus of control, and Rothbaum et al's (1982) two process model of primary and secondary control will be examined.

2.2 Internal and External Locus of Control

Rotter's (1966) concept of control involves a learned generalised expectancy for internal versus external control of reinforcement. Internal locus of control (ILOC), refers to the perception that events are a consequence of one's own intentions and behaviour, and therefore under personal control. External locus of control (ELOC), refers to the perception that events are determined by forces external to the self, such as fate, luck or powerful others, and as such, are beyond personal control.

Although Rotter (1966) originally proposed that locus of control was unidimensional in nature, numerous researchers (e.g., Reid & Ware, 1973, Collins, 1974) have shown that it is a multi-dimensional construct. In the absence of objective criteria for evaluating factor alternatives (Tabachnick & Fidell, 1996), disagreement remains over the exact number of factors within this construct. It is considered, however, to be a global assessment of “control beliefs” in regard to “ones own ability”, and the “ability of people in general”, to obtain a certain outcome (Thompson & Spacapan, 1991, p.8.).

The ELOC construct has shown to have a positive relationship with negative affect, and an inverse relationship with positive affect. Emmons' and Diener (1985), for example, requested subjects to respond, over 84 consecutive days, to five negative affect and four positive affect items using a seven point scale. Each affect measure was summed to produce a composite score. They found that an ELOC correlated significantly with both the negative affect composite ($r = 0.39$) and the positive affect composite ($r = -0.21$).

The ILOC construct has shown to exhibit a positive relationship with subjective well-being. Cooper, O'Kamura and McNeil (1995), for example, found that ILOC correlated significantly with Ryff's (1989) psychological well-being scale. This scale consists of six subscales: autonomy, environmental mastery, positive relations with others, self-acceptance, purpose in life and personal growth. In a literature review, Rothbaum et al., (1982) indicated that an ELOC has typically been associated with ill-being, involving variables such as depression, withdrawal and passive behaviours.

Based on these findings, a general conclusion in the locus of control literature is that an ILOC, the active shaping of one's reality, is more desirable than the apparent relinquishment of personal control to external forces (Rothbaum et al., 1982). However, exceptions exist. Shapiro et al., (1996), for example, document a number of situations where having an ILOC can be detrimental if events are not controllable. Although the locus of control construct has a long and prosperous history, it has been challenged by Rothbaum et al's., two process model of primary and secondary control.

2.3 Primary and Secondary Control

Primary control is the belief that one can actively influence and alter their environment, for example, objects, situations and others, to meet one's needs. Secondary control is the ability to adjust to one's environment by exerting control over its psychological impact, through cognitive strategies (Rothbaum et al., 1982). These strategies, according to the authors (p.12), include "predictive control", predicting outcomes to guard against disappointment, "illusory control", a belief in luck, fate and chance, "vicarious control", an association with more powerful others in an attempt to share their achievements, and "interpretative control", reinterpreting uncontrollable events in an attempt to derive meaning.

Primary control is considered by Rothbaum et al. (1982) to be synonymous to the ILOC construct. Secondary control shares two cognitive attributes with ELOC, a belief in chance and luck, and powerful others, but differs in that it is conceptualised as a functional control alternative, rather than a relinquishment of control (Rothbaum et al.). To demonstrate this, the authors review a number of studies illustrating how behaviours typically associated with an ELOC, such as withdrawal, passivity and submissiveness, can be reinterpreted to suggest that subjects are sustaining perceptions of control by cognitively adapting to their existing reality. Thus, Rothbaum et al. conclude that primary and secondary processes have similar functional importance. Heckhausen and Schulz (1995) argue, however, that primary control is functionally more important than secondary control as it is necessary to act upon the environment to fulfil certain needs and develop one's potential.

Secondary control is viewed as a compensatory mechanism, believed to dominate when primary control has failed (Rothbaum et al., 1982, Heckhausen & Schulz, 1995). This allows an individual to maintain a sense of control by cognitively adapting to, what is assumed to be, a less favoured outcome (Thompson, Collins, Newcomb & Hunt, 1996). Typically, however, primary and secondary processes are believed to coexist with the individual oscillating between the two (Rothbaum et al., Heckhausen & Schulz).

Although the primary and secondary two process model of control is not new, its conceptualisation and operationalisation is still in infancy. Its empirical relationship with other control constructs has yet to be adequately examined, and standard measures have yet to be developed. Each of these proposals will be examined respectively.

2.4 Problems with the Empirical Validation of Primary and Secondary Control

A literature search ("WinSpirs" data-base: Psychological journal articles, 1/74-12/89, 1991-3/97) revealed 33 articles on primary and secondary control. Of these, 16 were theoretical in nature, and 17 were empirical. Of the 17 empirical articles, 11 examined both primary and secondary processes. These 11 studies were reviewed to assess the operationalisation of the primary and secondary construct, and the psychometric validity of the measures employed.

All the primary and secondary control measures were constructed according to the sample of interest. Sample examples include, mothers of high risk infants (Affleck, Tennen & Gershman, 1985), caregivers of family members with dementia (Burton & Sistler, 1996), and HIV positive men (Thompson et al., 1996). All drew on Rothbaum et al's, (1982) two process model of control to conceptualise and operationalise primary and secondary processes. Responses were coded as primary or secondary, according to their congruence with this model.

As discussed, primary control is considered to be synonymous with the ILOC construct. Secondary control shares two cognitive attributes operationally synonymous with the ELOC construct. Despite these presumed relationships, no test of these have been made within the reviewed literature. Only one study examined the construct validity of their primary and secondary measures. In a sample of HIV positive men, Thompson, Nanni and Levine (1994) correlated their primary and secondary measures with Pearlin and Schooler's (1978) mastery scale. This scale measures the degree to which an individual believes that life events are under one's own control or the control of fate (Pearlin & Schooler).

Although the authors fail to cite a correlation for their primary measure, a significant correlation ($r = 0.68$) was found between their secondary measure and the mastery scale.

Five of the eleven studies correlated their primary and secondary measures. Not surprisingly, given the enormous variation in operationalising these constructs, there were mixed results in regard to both the magnitude and direction of the relationship. Some studies reported no relationship (Mendola, Tennen, Affleck, McCann & Fitzgerald, 1990), others reported a significant negative relationship (Weisz, McCabe & Dennig, 1994, Reed, Taylor & Kemeny, 1993), yet others reported a significant positive relationship (Thompson, Nanni et al., 1994, Seginer, Trommsdorff & Essau, 1993).

It is assumed by some researchers (e.g., Thompson, Nanni et al., 1994) that primary and secondary processes should be significantly related, both being subsumed under the general rubric of control. Further, Rothbaum et al., (1982) maintain that primary and secondary processes are “coexisting” and “intertwined” (p.8), thus implying a relationship.

It is unclear, however, what the direction of this relationship should be. As described, when primary control decreases, secondary control increases (Rothbaum et al., 1982), thereby suggesting that the relationship is negative. Support for this proposal is provided by Ryff (1989) who examined the relationship between environmental mastery and ELOC. As environmental mastery was defined as “active participation in, and mastery of, the environment” (p. 1071), it can be construed as primary control. Primary control is synonymous with the ILOC construct (Rothbaum et al.). Two aspects of the ELOC construct were utilised, illusory and vicarious control. Both are operationally synonymous with two aspects of secondary control (Rothbaum et al.). Environmental mastery exhibited a significant negative correlation with both illusory ($r = -0.38$), and vicarious control ($r = -0.45$), and a positive relationship with ILOC ($r = 0.38$).

A further reason for a negative relationship between primary and secondary control is due to the presumed reciprocity between these two constructs. Similar to the construction of Rotter's scale (1966), Rothbaum et al., (1982) propose that when measuring primary and secondary control, respondents should be presented with statement pairs in which they must endorse either the primary or secondary alternative. Thus, a binary choice would result in a negative relationship between these two constructs.

2.4.1 Problems With the Lack of a Standard Primary and Secondary Control Measure

As evidenced, primary and secondary control measures have been constructed according to the sample of interest. The lack of standard measures makes psychometric advancement difficult, and comparative studies hazardous, if construct validity has not been ascertained. Ideally, primary and secondary measures should cover the life spectrum, rather than being constructed to suit variables salient to a specific population.

Given the theoretical and empirical support for seven life domains, one aim of this study is to use the Comprehensive Quality of Life scale (Cummins, 1993) as a framework for developing a measure of primary control. Rotter's (1966) scale, which produces a score based on the number of external items endorsed, will be used as a measure of two aspects of secondary control, and will be referred to in this term. If, as presumed in the literature, primary and secondary processes are related, a significant association between primary and secondary control would be expected.

To summarise, ILOC is believed to be synonymous with primary control. ELOC has typically been associated with ill-being and has generally been construed as a relinquishment of control to external forces. Alternatively, it has been proposed that secondary control, which shares two attributes operationally synonymous with ELOC, sustains perceptions of control by allowing a cognitive adaption to existing reality. It has been proposed that primary and secondary processes are related, both being subsumed under the rubric of control.

Additionally, both processes are believed to coexist and be intertwined. As there are a number of psychometric concerns due to the absence of a standard primary and secondary measure, a measure that assesses control beliefs in a number of life domains, and is applicable to all populations, is essential.

A further issue in understanding control relates to social group differences. A number of studies have investigated cultural and social group differences in internal and external control, and primary and secondary control. Research using Rotter's (1966) scale will be examined first.

3.0 Social Group Differences in Internal-External and Primary-Secondary Control

3.1 Social Group Differences in Locus of Control

To examine cultural differences in locus of control, Graham (1994) performed a narrative review of African American research on motivation conducted during the period of 1953 to 1990. Of 16 studies, she found that seven indicated that whites were more internally oriented than blacks, four reported no racial difference, three indicated that blacks were more internally oriented than whites and two revealed mixed findings. Consequently, it is possible to conclude that there is no unequivocal support for black and white differences in locus of control among Americans.

Differences in locus of control between females and males has also been an area of interest. In a momentous study, Doherty and Baldwin (1985) obtained four data sets ("young women", "mature women", "young men", and "mature men") from a national probability sample, whose participants had been administered an abbreviated version of Rotter's (1966) scale on three occasions: 1969, 1972 and 1977. They found that both female groups exhibited a shift towards greater externality during this period. A "cultural shift" (p.1051) interpretation of these sex differences was proposed, with the suggestion that during the 1970s environmental inequalities led many women to perceive less control over their lives.

No doubt influenced by the intuitive appeal of this interpretation, Doherty and Baldwin's (1985) findings have been cited extensively (eg., Brems & Johnson, 1989, Wildstein & Thompson, 1989), to support subsequent findings of sex differences in locus of control. Some researchers (eg., Bishop & Solomon, 1989) are even bold enough to assert that their cross sectional finding of higher externality within older female groups, compared to older male groups, supports the cultural shift hypothesis.

In 1991 Smith and Dechter reanalysed the national probability data sets and found that females supposed shift towards greater externality was due to undetected coding errors. Once the errors had been corrected, in the form of appropriate reverse coding on certain scale items, the effect disappeared. Consequently, the subsequent literature claiming sex differences would have to be re-examined before another conclusion can be reached.

3.2 Cultural Group Differences in Primary and Secondary Control

Research investigating social group differences in primary and secondary control has largely focused on cross cultural studies. In particular, differences in the use of primary and secondary control processes in American and Japanese cultures (Weisz, Rothbaum & Blackburn, 1984, Azuma, 1984). In general, studies indicate that primary processes are dominant in collectivist cultures, and secondary processes are dominant in individualistic cultures (Weisz et al.).

Cross cultural studies illustrate the association between cultural influences and primary and secondary control (Weisz et al., 1984). In a similar vein, environmental influences, such as inequality and discrimination, no doubt served as an impetus in examining social group differences in locus of control. This invites the possibility of differences in locus of control, and primary and secondary control, in lesbian, gay and heterosexual populations. These populations are of particular interest as there is no evidence of research investigating group differences in these control constructs. Definitional terms are supplied before examining this topic.

3.3 Defining Lesbians and Gays

An examination of contemporary literature, such as newspapers and magazines, in the Victorian homosexual community indicates that women are generally referred to as lesbian, and men as gay. As it is advisable to employ the linguistic style of the population of interest (Donovan, 1992), these terms will be used to denote females and males, respectively. The term homosexual will be used to denote both lesbians and gays. As this term may be viewed negatively by the lesbian and gay community, given its historical association with social oppression (Donovan), it will be employed merely for linguistic purposes.

Although there is a lack of consensus in defining lesbians and gays (Sell & Petrulio, 1996), there is an emerging belief that a number of variables are involved (Berkey, Perelman-Hall & Kurdek, 1990). It has been proposed (Chung & Katayama, 1996, Storms, 1980) that an adequate assessment of sexual preference involves sexual attraction, sexual behaviour, fantasy and affectional variables. The inclusion of affectional variables is important, as research has shown that this is a more salient variable for women than men (Herek, 1985).

It will be assumed here that these four variables underlie sexual preference or orientation. Sexual preference is defined by De Cecco and Parker (1995) as a social constructionist approach, where sexuality is viewed as chosen and learned within a particular socio-cultural context. Sexual orientation is defined by these authors as an essentialist approach, where sexuality is viewed in terms of physical biological determinants. An examination of lesbian and gay literature suggests that either term is employed according to the researcher's theoretical preference. Thus, sexual preference will be used to denote sexuality in the current paper.

Lesbians and gays are here defined as individuals who are mainly or exclusively homosexual in regard to their physical sexual behaviour, sexual fantasies, sexual attraction and emotional (love) preference. Heterosexuals and bisexuals are defined as those who are mainly or exclusively heterosexual, or both homosexual and heterosexual, respectively, in regard to these variables.

3.4 Differences in Secondary Control in Lesbian/Gay and Heterosexual Samples

Lesbians and gays live in social conditions permeated with heterosexism defined as an ideology that “denies, denigrates and stigmatizes any nonheterosexual form of behavior, identity, relationship or community” (Herek, 1990, p.316). Thus, although lesbians and gays share a climate of prejudice, discrimination and victimisation similar to other minority groups, they are unique in that they are officially denied the same religious, social (Herek, 1989), and legislative rights (Equal Opportunities Commission, 1997), as the rest of the community.

In a study investigating the association between perceived discrimination and locus of control in a lesbian and gay sample, Birt and Dion (1987) administered two components of Rotter’s (1966) scale that assessed internal-external control beliefs in regard to a just-unjust and easy-difficult world, respectively. The just-unjust component assesses the degree to which an individual attributes events to their own behaviour, and the easy-difficult component assesses the degree to which an individual believes their environment to be “difficult, complicated and unsolvable” (Collins, 1974, p.385). Some of the items attribute this difficulty to luck or chance (Collins). A hierarchical analysis revealed that a belief in an unjust and difficult world significantly predicted perceptions of discrimination (Birt & Dion).

Keeping with convention, Birt and Dion (1987) interpreted their finding as indicating lower perceptions of control among subjects who perceived their environment as discriminatory. Consistent with Rothbaum et al’s., (1982) interpretation of secondary processes, these subjects may, however, be exerting personal control by employing cognitive strategies to reduce the psychological impact of a perceived discriminatory environment. Thus, subjects with an ELOC may be employing a functional control alternative, rather than relinquishing control to external forces.

The generalisability of Birt and Dion’s (1987) finding is limited. The sample was recruited from Toronto, a noted lesbian and gay community (Birt & Dion), suggesting that geographic location could be an important variable influencing perceived discrimination.

Given the salience of the community, residents may be vulnerable to anti-lesbian and gay sentiment, and therefore have increased perceptions of discrimination.

Nevertheless, discrimination and prejudice towards lesbians and gays remains a characteristic feature of our social environment, and may be associated with group differences in secondary control. Group differences in primary control are also possible. Given the vast amount of literature on lesbian and gay victimisation, the domain of safety provides an avenue in which to explore this issue.

3.5 Victimisation and Issues of Safety for Lesbians and Gays

There is considerable literature documenting violence and victimisation towards lesbians and gays in the United States (see National Gay Task Force, 1984, for an overview of eight American studies). Australian studies are less common. A Victorian report by Gays and Lesbians Against Discrimination (1994) found that well over half (70% women, 69% men) of their 1,002 lesbian and gay sample had experienced some form of harassment or violence. Seventy percent of women and 64 percent of men had been verbally abused in a public place, 36 percent of women and 39 percent of men had been threatened with violence, and 11 percent of women and 20 percent of men had been bashed or physically abused. Findings from surveys in New South Wales report similar results (Cox, 1990, Lesbian and Gay Anti-Violence Project, 1992).

Typically, research on lesbian and gay victimisation is beset with methodological problems. In particular, the lack of a control group to compare rates of victimisation in heterosexual samples, and the assertion of causality between sexual preference and victimisation, without knowledge of explicit anti-lesbian and gay reference. In addition to these two concerns, the Victorian report (1994) is particularly startling in its lack of methodological validity. Respondents, for example, were recruited from lesbian and gay identified organisations, festivals and venues only. An emphasis solely on these contexts results in an over-representation of openly identified lesbians and gays (Berrill, 1990) who, as a consequence, would be more likely to have suffered from victimisation (Rothblum, 1994).

Two further concerns with this study involve the operationalisation of sexual preference and group allocation. Sexual preference was operationalised by requesting respondents to indicate whether they were lesbian, gay, bisexual, transsexual, homosexual or "other". Operationalising sexual preference as an identity is hazardous as it excludes those who are sexually active, or attracted to people of the same sex, but do not identify as lesbian or gay (Sell & Petrulio, 1996).

In regard to group allocation, 492 women and 510 men were allocated to groups subsequently referred to as lesbian and gay, respectively. From the statistical profile it is clear, however, that their sample did not only consist of lesbians and gays but also bisexuals, transsexuals, "others", who were not defined, and respondents who did not provide their sexual preference. The latter two groups should have been discarded from the analysis, and the incorrect classification and reference to bisexuals and transsexuals as either lesbian or gay, should have been acknowledged as this may have obscured important group differences in perceptions and rates of discrimination and violence.

Finally, respondents were requested to indicate whether they had been "harassed or assaulted in a public place" (p.39), with the comment that discrimination often occurs in this area. The problems inherent in subjective reports of this type of victimisation, such as the subjectivity involved in discerning that an attack was discriminatory in nature, are exacerbated by such obvious priming. Additionally, when estimating incidences of victimisation no time frame was specified, exacerbating the problems inherent in retrospective reports, such as the fallibility of memory.

Methodological problems aside, the results of this and numerous other reports, indicate that lesbians and gays experience high rates of victimisation, verbal abuse being the most common form. Interestingly, studies (e.g., Kidd & Chayet, 1984) have illustrated the vicarious affect of victimisation, with members of a victim's social network experiencing similar psychological reactions to that of the victim. As lesbian and gay victimisation creates an environment of fear for the lesbian and gay community (Garnets, Herek & Levy, 1990), it is possible that lesbians and gays do not have to directly experience victimisation to feel vulnerable in regard to their safety.

3.6 Differences in Primary Control over Safety in Lesbian/Gay and Heterosexual Populations

The psychological impact of victimisation on perceptions of control centres around two themes: personal world assumptions and causal attributions (Wortman, 1983). The first perspective proposes that victimisation shatters the assumption that the world is “meaningful”, one aspect of which is the belief that events are controllable (Janoff-Bulman & Frieze, 1983, p.5). This proposal is supported by the finding that subjects who had suffered from various forms of victimisation had lower perceptions of control over outcomes, as measured by Janoff-Bulman’s Assumptive World Scale (1989), compared to non-victimised subjects (Winkel & Denkers, 1995).

Garnets et al., (1990) propose that this assumption is shattered, and a perceived loss of control over life ensues, when lesbians and gays are victimised. Consistent with this proposal it would therefore be expected that lesbians and gays would perceive a loss of control over safety, as this variable has shown to constitute a life domain (Cummins, 1997).

The second perspective proposes that an individual’s interpretation of the victimising event, whether it is attributed to internal, external, stable or global causes, determines their psychological reaction (Peterson & Seligman, 1983). Behavioural attributions, where the victimising event is attributed to one’s own behaviour, and therefore a modifiable part of the self (Janoff-Bulman & Frieze, 1983), has shown to be related to perceptions of controllability over future outcomes (Winkel & Denkers, 1994).

Research indicates (e.g., National Gay Task Force, 1984, Herek, 1993) that lesbians and gays often modify their behaviour after victimisation, such as avoiding public displays of affection and taking self defence classes. Additionally, the vicarious effect of victimisation may result in non-victimised individuals taking these precautionary measures. Although behavioural modifications suggest the exertion of primary control, this may not translate to perceived controllability over future outcomes, as it is doubtful that findings from victimisation studies in the general population can be generalised to lesbians and gays.

As Janoff-Bulman and Frieze (1983) caution, “reactions of victims of a group victimization may differ from those of victims who have been singled out individually” (p.13). Individuals who are “singled out” may be able to maintain perceptions of controllability over future outcomes as they are not continually exposed to the possibility of victimisation in the same manner as lesbians and gays.

In addition to group differences in primary control over safety, the literature suggests that group differences may also be found in the domain of family. Possible differences are centred around findings illustrating the often adverse familial reaction to the discovery that a family member is lesbian or gay.

3.7 Differences in Primary Control over Family in Lesbian/Gay and Heterosexual Populations

Familial reactions to a family member’s sexual preference can range from disbelief and disapproval (McWhirter & Mattison, 1984), to rejection and physical and emotional abuse (Aurand, Addessa & Bush, 1985). With family relations being thus disrupted or terminated, it would appear that lesbians and gays would perceive little control over maintaining close family relations. Familial reactions no doubt contribute to the finding that lesbians and gays report friends as more important than family (Kurdek, 1988, Kurdek & Schmitt, 1987). Indeed, Kurdek found that 43 percent of lesbians’ and gays’ total social support networks consisted of friends, whereas only 13.5 percent consisted of family. Heterosexuals, in contrast, report equal levels of social support from family and friends (Kurdek & Schmitt).

To summarise, the association found between cultural influences and primary and secondary control may have implications for lesbians and gays due to the often discriminatory nature of our social environment. Although research has shown that victimisation impacts on primary control by shattering the assumption that the world is meaningful, behavioural modifications undertaken by victimised lesbians and gays suggest the exertion of primary control.

It is doubtful, however, that the association found between behavioural modifications and perceived controllability over future outcomes can be generalised to lesbians and gays. Finally, the often adverse familial reaction to a family member's sexual preference may impact on lesbians' and gays' perceptions of control in maintaining close family relations.

4.0 Hypotheses

Hypothesis 1: Lesbians and gays will exhibit higher levels of secondary control compared to heterosexual women and men.

Rationale: As lesbians and gays live in an often discriminatory environment, homosexuals would be more likely than heterosexuals to exert control by employing cognitive strategies to reduce the psychological impact of their environment.

Hypothesis 2: Lesbians and gays will exhibit higher rates of victimisation compared to heterosexual women and men.

Rationale: Research indicates, albeit with methodological problems, that lesbians and gays experience high rates of victimisation.

Hypothesis 3: While no differences will be found between lesbians/gays and heterosexuals for most of the domains of primary control, lesbians and gays will exhibit less control over safety and family relations.

Rationale: In regard to safety, it has been proposed that victimisation impacts on perceptions of primary control by shattering the assumption that the world is meaningful. In regard to family, the often adverse familial reaction to the discovery that a family member is lesbian or gay suggests that these subjects would perceive little control over maintaining family relations.

Hypothesis 4: Primary and secondary control will exhibit a significant relationship.

Rationale: Although ELOC shares two attributes operationally synonymous to secondary control, research has not assessed the relationship between ELOC and primary control. Previous research has presumed that primary and secondary processes are significantly related, both being subsumed under the general rubric of control. Additionally, primary and secondary processes are believed to be coexisting and intertwined. The demonstration of a relationship between primary and secondary control would provide support for these proposals.

Hypothesis 5: Primary control will make a greater contribution to life satisfaction for both lesbian/gay and heterosexual people.

Rationale: Secondary processes, although of functional importance, are typically construed as an adaptation to a less favoured outcome. Consequently, it would be expected that primary processes, where one acts upon the environment to fulfil certain needs and develop one's potential, would make a higher contribution to life satisfaction than secondary processes.

5.0 METHOD

5.1 Subjects

Two samples, consisting of lesbian/gay and heterosexual respondents, were required for this study. Four hundred questionnaires were distributed and 232 were returned, by the due date, yielding a response rate of 58 percent.

Lesbian and gay respondents were drawn from friendship networks, three university discussion groups and one social group. The sample consisted of 86 respondents, 41 (48%) were female. Mean age was 29 ± 8 years (range from 17 to 53 years). Gross annual income ranged from less than \$10,999 to over \$56,000. Mean income was approximately equivalent to \$27,490. Education ranged from secondary school (up to year 10) to post-graduate qualification, with a mean equivalent to a diploma or partial degree.

Heterosexual women and men were drawn from friendship networks only. The sample consisted of 110 respondents, 73 (66%) were female. Since an over-representation of heterosexual females would bias the results, 46 cases (42%) were chosen to represent this group. As there were few missing data for heterosexual women, elimination of cases containing missing data was not feasible. Instead, cases were selected using a table of random numbers (Shaughnessy and Zechmeister, 1994). Each of the original 73 cases were arbitrarily labelled 10 to 83. Beginning in a randomly selected column, the first two digits of each five digit sequence in the table determined which respondents were chosen. If these failed to fall between the allocated numbers of 10 to 83, the author proceeded to the next suitable sequence and continued through each column until 46 cases had been selected.

In the final heterosexual sample of 83 cases, mean age was 30 ± 6 years (range from 18 to 44 years). Gross annual income ranged from less than \$10,999 to over \$56,000. Mean income was approximately equivalent to \$33,435. Education ranged from secondary school (up to year 11) to postgraduate qualification, with a mean equivalent to a diploma or partial degree.

Thirty two respondents (14%) were bisexual. As it was decided that bisexuals would be less likely to experience the discrimination and victimisation typically confronting lesbians and gays, and the small number constituting this group would bias subsequent group comparisons, they were omitted from the analysis. A further four respondents were omitted. Three did not provide their sex, and one failed to complete the sexual preference scale, stating they were celibate.

5.2 Materials

Subjects were issued a questionnaire booklet titled "Life, Love and other Concerns". A plain language statement and a demographic sheet were presented at the beginning of the booklet (Appendices A and B respectively). The demographic sheet requested subjects to state their sex, age and gross annual income before tax (represented by four intervals ranging from less than \$10,999 to more than \$56,000), and level of education and training (represented by eight intervals ranging from primary school to post-graduate qualification). The latter part of the booklet consisted of four scales described below.

5.2.1 Sexual preference

As many sexual preference scales are lengthy in nature (e.g., Klein, Sepekoff & Wolf, 1985, Berkey, et al., 1990), a modified version of Kinsey, Pomeroy, Martin and Gebhard's (1948) Heterosexual-Homosexual scale was used. This allowed a brief assessment of sexual preference for the purpose of group allocation.

Kinsey et al's., (1948) scale was modified for two reasons. First, it only assessed sexual fantasies and behaviour. As previously discussed, an adequate assessment of sexual preference also involves affectional variables (Herek, 1985). Second, these authors used a complex counting system in regard to the frequency of sexual behaviour and content of sexual fantasies over the life span, to eventually arrive at a sexual preference rating. This rating ranged from zero, exclusively heterosexual, to six, exclusively homosexual. As changes in sexual preference were not required in the current study, a simple method of arriving at a sexual preference score was devised.

Utilising a five point bipolar scale, where one was exclusively heterosexual, three both heterosexual and homosexual, and five exclusively homosexual, respondents were requested to indicate their current sexual preference in regard to four variables: sexual behaviour, fantasies, emotional (love) preference, and feelings of sexual attraction (Appendix C). Females and males who scored a four or a five on each of these variables were classified as lesbian or gay, respectively. Those who scored one or two on each of the four variables were classified as heterosexual. Females and males who scored a three on any of the variables were classified as bisexual.

5.2.2 The Comprehensive Quality of Life Scale

Cummins (1997) maintains that well over 100 instruments exist purporting to measure quality of life. Many of these, however, cannot be used with the general population, fail to provide empirical support for the inclusion of certain life domains, and fail to assess personal domain relevance by weighting satisfaction with perceived domain importance. The Comprehensive Quality of Life Scale (ComQol: Cummins, 4th.ed., 1993), fulfils these criterion, thereby providing an advantage over many existing scales. As the current study is only concerned with subjects perceived quality of life, rather than objective status, the subjective component of the ComQol was employed to assess satisfaction with the following life domains: material well-being, health, productivity, intimacy, safety, community, and emotional well-being (Appendix D).

Intimacy is addressed in the scale by assessing perceived importance and satisfaction with "close relationships with family and friends". As research indicates (e.g., Kurdek, 1988), that friends are more salient for lesbians and gays than family, due to the often adverse familial reactions to one's sexual preference, this question was separated into two items. One question referred to family, and another to friends.

Satisfaction with each life domain is assessed by responding to a seven point Likert scale ranging from "delighted" to "terrible". Combined scores yield a possible range from 8 to 56. High scores reflect high satisfaction. The perceived importance of each domain is assessed by responding to a five point Likert scale, ranging from "could not be more important" to "not important at all".

Combined scores yield a possible range from 8 to 40. High scores reflect high perceived importance. After recoding the satisfaction data, and weighting importance by satisfaction, a total SQOL score is also calculated.

Psychometrically, the ComQol (1993) exhibits satisfactory internal reliability and validity. Studies documented in the fifth edition of the ComQol (Cummins, 1997), report a Cronbach's alpha ranging from 0.65 to 0.69 for the importance sub-scale, and from 0.73 to 0.81 for the satisfaction sub-scale. Test-retest reliability, at a five month interval, demonstrates good stability for both the importance ($r = 0.60$), and satisfaction ($r = 0.36$) subscales. Finally, adequate convergent validity between the subjective component of the ComQol and self esteem ($r = 0.60$), and positive affect ($r = 0.48$) respectively, has been demonstrated. Discriminant validity between the ComQol and measures such as negative affect ($r = -0.43$) have also been ascertained.

5.2.3 Internal-External Locus of Control Scale

A number of scales exist purporting to measure internal-external locus of control. Some (e.g., Lumpkin, 1985) are shortened versions of Rotter's (1966) scale, others (e.g., Collins, 1974, Levenson, 1974) focus on the construct's multidimensionality and separate Rotter's items into particular subscales, according to the factors found. As the current study is not concerned with examining different aspects of the locus of control construct, and brief scales are not required for practical purposes, Rotter's original internal-external locus of control scale was used.

This scale measures the extent to which events are believed to be under one's own control, or the control of external forces (Rotter, 1966). It consists of 29 pairs of statements, six of which are filler items. With a forced choice format, the respondent must indicate which statement of the pair they most agree with. The total score is the number of external items endorsed. A high score therefore indicates an external locus of control.

Two changes were made to this scale (Appendix E). First, as the general population, rather than students, were recruited for the current study, the following statement pair were omitted due to their lack of applicability: “Sometimes I can’t understand how teachers arrive at the grades they give” or “There is a direct connection between how hard I study and the grades I get”. Second, consistent with contemporary linguistic style, question four which referred to “he” was changed to “she/he”, and question 12, which referred to “the little guy”, was changed to “the little person”.

Rotter (1966) has reported extensive psychometrics for his scale illustrating its reliability and validity. These are typically referred to in studies utilising his scale (e.g., Lumpkin, 1985). Using the Kuder-Richardson formula, internal consistencies have shown to range from 0.69 to 0.73. Test-retest reliabilities, over a one month period, range from 0.60 to 0.78 (Rotter). Test-retest reliabilities, conducted over an 11 to 12 month period, report a correlation of 0.57, suggesting that this scale is also stable over a longer period of time (Layton, 1985). Correlations between intelligence measures and the locus of control scale range from 0.01 to -0.22, indicating adequate discriminant validity (Rotter).

5.2.4 Primary Control

As previously described, a literature review indicated that existing primary control measures are sample specific. Since it has been argued that a primary measure must be applicable to all populations and cover life domains, the ComQol (1993) is a useful instrument as a basis for constructing an experimental primary control measure.

To achieve this end, respondents were asked how much control they perceived to have over each of the life domains (Appendix F). Responses were made on a five point Likert scale, where five represented “almost complete” control, and one represented “almost none”. This yielded a combined primary control score with a possible range of 8 to 40, where high scores indicated high primary control. With the exception of substituting the word importance/satisfaction for the word control, the original sentence construction remained unchanged.

Psychometrically, the primary control scale exhibits good face validity. A reliability analysis revealed item-total correlations ranging from 0.30 to 0.64. As the scale is multidimensional in nature it was decided that items correlating less than 0.30 would be considered poor contributors to the primary control construct (Coakes & Steed, 1996). Therefore, item-total correlations are adequate. A Cronbach's alpha coefficient of 0.73 indicated that the scale was internally reliable.

5.2.5 Victimisation

A literature search ("Win Spirs" data base: Psychological journal articles, 1/74-12/89, 1991-3/97) revealed a number of articles on lesbian and gay victimisation. An examination of these indicated that there is no standard victimisation measure. According to Comstock (1991), however, many studies utilise the eight victimisation domains originally employed in the study by the National Gay Task Force (1984). These domains assess a variety of events related to verbal harassment, physical intimidation and violence, and are used in the current study.

Two methodological concerns discussed in the introduction are addressed by the current victimisation scale (Appendix G). First, when requesting participants to indicate whether they have experienced victimisation in each of the eight domains, no reference was made to the influence of sexual preference on victimisation. Second, participants were requested to only report victimising events that had occurred within the past two years, rather than their life span.

Employing a yes or no format, answers in the affirmative were coded one and answers in the negative were coded zero. The combination of variables therefore yielded a possible range from zero to eight, where high scores indicated high rates of victimisation.

Psychometrically, the scale exhibits high face and content validity. A reliability analysis revealed item-total correlations ranging from 0.21 to 0.61. As a criterion of 0.30 was employed to evaluate item-total correlations, the analysis revealed that the item "property", which exhibited the lowest item correlation, was not contributing adequately to the victimisation construct. It was excluded from the subsequent analysis which resulted in adequate item-total correlations, ranging from 0.35 to 0.60. The Cronbach's Alpha coefficient was 0.74, indicating that the scale was internally reliable.

5.3 Procedure

After receiving approval from the Deakin University Ethics Committee (Appendix H), two non-probability sampling procedures were employed due to the difficulty in accessing lesbian and gay respondents. The first procedure involved distributing questionnaire booklets to four groups. These included three lesbian and gay discussion groups, two affiliated with Deakin University and one affiliated with Monash University, and one inner-city lesbian social group which meets bi-monthly. After obtaining consent from the group's co-ordinator, group members were invited by the author to participate in research investigating people's perceptions of various life domains, and how these influenced their sense of life quality. Participants were directed to the information contained in the plain language statement and were informed that the questionnaires were anonymous, took approximately twenty minutes to complete, and were to be returned to Deakin University using the addressed, return-paid envelope.

The second procedure used to access lesbians and gays, and the heterosexual female and male group, involved distributing questionnaires through friendship networks. This approach is typically referred to as "snowballing" (Rothblum, 1994), and partly overcomes the bias inherent in past research of restricting lesbian and gay respondents to those accessed through lesbian and gay identified contexts only. Therefore, questionnaires were distributed to the author's friends who were provided with the same information concerning the questionnaire as that presented to the lesbian and gay discussion and social groups. In addition, they were invited to distribute questionnaires to their social, family and work networks.

Those who consented, were requested to provide the same information to future participants that they, themselves, had received in regard to the purpose and the completion of the questionnaire.

6.0 Results

6.1 Missing Data and Accuracy of Data Input

Prior to analyses, data were screened by group for missing values and accuracy of data input. Examination of descriptive statistics, using SPSS for Windows (Version 6.1), revealed plausible means and standard deviations for each variable, and no out of range values. Out of the total 169 data sets, 17 values (0.16%) were missing for SQOL, nine for victimisation (0.08%), eight for primary control (0.07%), one for age (0.01%), one for income (0.01%), and 33 (0.32%) for secondary control.

With 169 data sets, and 64 items within each set, missing data were considerably less than the recommended maximum of less than five percent (Tabachnick & Fidell, 1996). However, as the pattern of missing data is more critical than the amount (Tabachnick & Fidell), dummy variables were constructed to determine whether any such pattern existed. No pattern was found.

SQOL scores were obtained by multiplying the importance and satisfaction (**IXS**) of each domain for each individual case. As this cannot be computed in the presence of missing data, missing values were replaced with the group mean for the relevant domain. Group means were also utilised to replace missing values in the data pertaining to victimisation, primary control, age and income. Although this strategy reduces the variance of the variable involved, as the missing datum value was unlikely to be the mean value of the distribution, it has the advantage of minimising the influence of the replaced value on the remaining data set (Tabachnick & Fidell, 1996). As Rotter's (1966) internal items were coded zero, and external items were coded one, missing data, (and data where both items were endorsed), were recoded as 0.50. This ensured that internal scores were not inflated.

6.2 Univariate Normality, Outlying Values and Descriptive Statistics

The following section presents univariate information concerning group normality, outlying values and descriptive statistics for each variable. Assumptions specific to the statistical tests to be employed will be evaluated at hypotheses testing.

6.2.1 Demographics

The demographic variables, age, level of education, and annual gross income were free of univariate outliers and exhibited normality in both lesbian/gay and heterosexual groups. Means and standard deviations for each variable have previously been described. To ascertain whether demographic characteristics were similar in each group, a Multivariate Analysis of Variance (MANOVA) was conducted. Sexual preference was the independent variable and the demographic data formed the dependent variables.

Prior to analysis within group scatterplots, conducted between pairs of dependent variables, indicated that the assumption of linearity was upheld. No multicollinearity or singularity was observed. Using the Bartlett-Box criterion, univariate homogeneity of variance-covariance tests revealed that the variables age ($F_{1,84} = 5.21, p < 0.05$) and education ($F_{1,84} = 5.46, p < 0.05$) violated this assumption. As sample sizes are relatively equal, 86 and 83 cases in the lesbian/gay and heterosexual groups respectively, and the ratio of the largest cell variance to the smallest is less than 10 ($F\text{-max} = 1.29$), this violation is not a concern (Tabachnick & Fidell, 1996). Box's M test indicated that the assumption of multivariate homogeneity of variance-covariance was also violated ($F_{6,20} = 2.24, p < 0.05$). As significance is not at a low level of acceptance (e.g., 0.001), univariate F- tests are expected to be robust to this violation (Tabachnick & Fidell).

The Pillais criterion indicated a multivariate significant difference ($F_{3,165} = 2.64, p = 0.05$) between the groups on education, age and income. To ensure that type one error was not inflated, a Bonferroni type adjustment was made which ensured that family wise error was maintained at an alpha level of 0.05 for the variable set. Once univariate F-tests were evaluated at the adjusted alpha level of 0.016, they failed to reach significance. Therefore, demographic features are similar across the two groups and group comparisons are valid.

6.2.2 Victimisation

Victimisation, sum of the seven victimisation variables, exhibited a positive skew in both lesbian/gay (3.73), and heterosexual groups (4.58). As generally low levels of victimisation appear to be the natural shape of the distribution, transformation was not undertaken. One univariate outlier in the heterosexual group was considered to be caused by the skewed distribution, and therefore allowed to remain as a valid representation of the sample.

An examination of the descriptive statistics in Table 1 indicates that, for both groups, verbal abuse is the most common form of victimisation and sexual assault the least common. Group differences will be examined at hypotheses testing.

Table 1

Descriptives for Domain and Total Victimisation in Lesbian/Gay and Heterosexual Groups

Victimisation Domain	Lesbian/Gay (n=86)			Heterosexual (n=83)		
	Frequency (n)	Mean \pm	S D	Frequency (n)	Mean \pm	S D
Verbal Insults	68	0.79 \pm	0.41	54	0.65 \pm	0.48
Chased	22	0.26 \pm	0.44	7	0.08 \pm	0.28
Spat Upon	9	0.11 \pm	0.31	2	0.02 \pm	0.15
Threatened with physical violence	31	0.36 \pm	0.48	25	0.30 \pm	0.46
Assaulted with physical violence	13	0.15 \pm	0.36	8	0.10 \pm	0.30
Sexually harassed	30	0.35 \pm	0.48	9	0.11 \pm	0.31
Sexually assaulted	4	0.05 \pm	0.21	1	0.01 \pm	0.11
Total	177	0.29 \pm	0.26	106	0.18 \pm	0.18

6.2.3 Subjective Quality of Life

SQOL has found to be negatively skewed regardless of sample or measurement instrument (Cummins, 1995). As this appears to be the natural shape of the distribution, these variables were not forced to conform to normality. The SQOL variable to be used in subsequent analyses, total of importance multiplied by satisfaction for each domain ($I \times S$), exhibited two univariate outliers, one from each group. These were retained for the reason previously stated.

Table 2 presents domain means and standard deviations for satisfaction and importance, each expressed as a percent of the scale maximum. This statistic is calculated using the formula $(\text{score} - 1) \times 100 / (\text{number of scale points} - 1)$. Interestingly, both the lesbian/gay and heterosexual groups rated emotional well-being as the most important domain, and material well-being as the least important. For the lesbian and gay group the domain of family was rated as the least satisfying, for the heterosexual group the least satisfying domain was productivity.

SQOL data ($I \times S$), expressed as a percent of scale maximum, is also presented in Table 2. This is calculated using the formula $((\text{score} - 1) + 19) \times 100 / 38$ for positive importance \times satisfaction scores and, $((\text{score} + 1) + 19) \times 100 / 38$ for negative importance \times satisfaction scores. As evidenced, the lesbian and gay group fall below Cummins' (1995) normative life satisfaction range of 70 to 80 percent of the scale maximum on productivity and intimacy with family. The heterosexual group fall below the normative range on material well-being only. As this suggests the presence of group differences, a MANOVA was conducted using the eight SQOL (% SM) domains as dependent variables.

Table 2

Satisfaction (Sat), Importance (Imp) and SQOL (IxS) Expressed as a Percent of Scale Maximum (%SM) for Lesbian/Gay and Heterosexual Groups

Domain	Lesbian/Gay (<u>n</u> =86)			Heterosexual (<u>n</u> =83)		
	Imp	Sat	IxS	Imp	Sat	IxS
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD
Material	58.1 ± 22.8	76.9 ± 15.0	70.1 ± 10.9	55.1 ± 20.2	77.5 ± 13.6	69.9 ± 10.0
Health	79.9 ± 17.9	68.0 ± 20.5	70.4 ± 17.5	80.1 ± 13.4	74.3 ± 16.9	74.1 ± 14.9
Productivity	76.7 ± 19.9	67.4 ± 20.9	68.9 ± 17.3	74.4 ± 16.1	71.3 ± 18.5	70.1 ± 15.5
Intimacy (family)	67.7 ± 24.8	60.6 ± 25.8	64.1 ± 19.9	78.0 ± 19.7	74.5 ± 23.2	74.5 ± 20.1
Intimacy (friends)	83.1 ± 14.1	76.8 ± 22.1	76.1 ± 20.0	77.1 ± 14.7	78.5 ± 14.9	76.9 ± 11.6
Safety	77.3 ± 19.8	73.3 ± 17.1	72.1 ± 13.8	67.8 ± 20.1	78.9 ± 12.5	73.8 ± 8.7
Community	66.9 ± 19.0	79.0 ± 16.1	74.5 ± 12.4	63.6 ± 17.6	80.3 ± 15.2	73.9 ± 11.6
Emotion	86.3 ± 17.0	68.8 ± 21.3	71.2 ± 20.2	84.3 ± 14.5	73.3 ± 21.0	73.7 ± 18.6
Total	74.4 ± 10.5	71.0 ± 13.2	71.0 ± 10.6	71.8 ± 8.6	76.0 ± 10.4	73.0 ± 8.3

Prior to the MANOVA analysis, within group scatterplots conducted between pairs of dependent variables indicated that the assumption of linearity was upheld. No multicollinearity or singularity was evident. Using the Bartlett-Box criterion, univariate homogeneity of variance-covariance tests revealed that friends ($F_{1,84} = 23.07$, $p < 0.001$), and safety ($F_{1,84} = 17.26$, $p < 0.001$) were heterogeneous. As previously described, sample sizes are relatively equal and F-max is small (2.95), suggesting that this is not a concern. Box's M test indicated that the assumption of multivariate homogeneity of variance-covariance was also violated ($F_{36,94} = 2.36$, $p < 0.001$).

As the larger group, lesbians and gays, exhibited larger variances and covariances compared to the heterosexual group, univariate F-tests should be robust to this violation (Tabachnick & Fidell, 1996).

The Pillais criterion indicated a multivariate significant effect between the groups ($F_{8,160} = 2.11, p < 0.05$), on the eight dependent variables. The previously described Bonferroni adjustment was made, and univariate F-tests were evaluated at an alpha level of 0.006. As evidenced in Table 3, the family variable exhibited significance, such that lesbian and gay respondents reported lower satisfaction with family, compared to heterosexual respondents. The effect size however is modest, indicating that the strength of association between sexual preference and intimacy with family is weak.

Table 3

Univariate F-tests and Associated Statistics for Lesbian/Gay and Heterosexual Groups on Eight SQOL (% SM) Domains

Independent Variable	Dependent Variables (% SM)	F (1, 167)	Sig of F	Power	ETA Square
Sexual Preference	Material	0.01	0.92	0.03	0.00
	Health	2.20	0.14	0.31	0.01
	Productivity	0.21	0.65	0.05	0.00
	Intimacy (family)	11.49	0.00 ***	0.92	0.06
	Intimacy (friends)	0.10	0.75	0.05	0.00
	Safety	0.87	0.35	0.17	0.01
	Community	0.10	0.76	0.05	0.00
	Emotion	0.67	0.41	0.17	0.00

*** $p = 0.001$

As MANOVA is particularly sensitive to outliers (Tabachnick & Fidell, 1996), a further MANOVA was performed to assess the impact of outlying values on the analysis. After recoding outliers three standard deviations above or below the group mean for each domain, the Pillais criterion continued to exhibit multivariate significance

($F_{8,160} = 2.08, p < 0.05$), and the family variable continued to exhibit univariate significance ($F_{1,167} = 11.08, p < 0.001$).

6.2.4 Primary Control

With the exception of community, all the primary control variables exhibited a negative skew, ranging from - 2.06 to -5.80 in both groups. A percent of scale maximum statistic was calculated and, as evidenced in Table 4, revealed that scores fell close to Cummins' (1995) normative SQOL range of 70 to 80 percent of the scale maximum in both groups. Subsequently, the natural shape of the distribution was retained and the 15 univariate outliers, distributed across the groups on six of the eight variables, were considered to be caused by the skew, and therefore allowed to remain as valid representations of the sample.

As evidenced in Table 4, the lesbian and gay group fall below Cummins' (1985) normative SQOL range on perceived primary control over friends and family. Interestingly, as illustrated in Table 2, this group also fell below the normative range on satisfaction with family. The heterosexual group fall below the normative range on community only. Table 4 also displays means and standard deviations for each primary control domain. Group differences will be examined at hypotheses testing.

Table 4

Domain and Total Perceived Primary Control Descriptives and the Corresponding Percent of Scale Maximum for Lesbian/Gay and Heterosexual Groups

	Lesbian/Gay (<i>n</i> =86)		Heterosexual (<i>n</i> =83)	
Control Domain	Mean ± SD	<u>% SM</u>	Mean ± SD	<u>% SM</u>
Material	3.85 ± 0.98	71.22	3.87 ± 0.82	71.65
Health	3.89 ± 0.91	72.35	3.96 ± 0.74	77.10
Productivity	4.01 ± 0.76	75.00	4.11 ± 0.68	77.41
Intimacy (family)	3.48 ± 1.13	61.90	3.88 ± 0.74	71.99
Intimacy (friends)	3.77 ± 0.79	69.19	3.83 ± 0.58	70.73
Safety	3.80 ± 0.76	70.00	3.81 ± 0.72	70.18
Community	3.93 ± 0.68	73.26	3.79 ± 0.69	69.82
Emotion	3.86 ± 0.87	71.51	4.05 ± 0.85	76.22
Total	3.85 ± 0.51	71.27	3.92 ± 0.43	72.96

Note: Maximum possible domain control score is five.

6.2.5 Secondary control

Secondary control, the total external items endorsed, was normally distributed in both groups, and neither group exhibited univariate outliers. The mean for the lesbian and gay group was 14.47 (SD = ± 4.27). For the heterosexual group the mean was 13.16 (SD = ± 3.64).

6.3 Multivariate Normality

Using SPSS REGRESSION, multivariate outliers were sought, by group, on the variables which had exhibited univariate normality: education, age, income and secondary control. With a critical Mahalanobis Distance value set at $\chi^2(4) = 18.47$ $p < 0.001$, one univariate outlier was found in the lesbian/gay group. This case was considerable older (53 years) than the mean age of the group (29 years), and was deleted from further analyses.

Unfortunately, multivariate normality cannot be assured as the primary control, SQOL and victimisation variables were not examined for multivariate outliers due to the previously stated reasons for not transforming these distributions, and leaving outliers at their original values. The impact of multivariate non-normality on statistical analyses is yet unknown as currently there is no adequate procedure to test this assumption (Tabachnick & Fidell, 1996).

6.4 Hypotheses Testing

6.4.1 Hypotheses One and Two

Hypotheses one and two which state, respectively, that lesbians and gays will exhibit higher levels of secondary control and rates of victimisation compared to heterosexual respondents, will be tested together using a MANOVA. These two variables form the dependent variables and the independent variable was sexual preference.

Within group scatter-plots conducted between the dependent variables indicated that the assumption of linearity was upheld. Examination of the within cell correlation determinants revealed no threat of multicollinearity or singularity for either group. At the univariate level, the Bartlett's-Box criterion indicated that the victimisation variable violated the assumption of homogeneity of variance-covariance ($F_{1,83} = 11.40$, $p = 0.001$). As F-max is small (1.39), and sample sizes relatively equal, this should not be problematic.

Box's M test indicated that the assumption of homogeneity of variance-covariance was also violated at the multivariate level ($F_{3,505} = 4.32, p < 0.01$). For the reasons stated in the MANOVA pertaining to the demographic variables, univariate significance tests are expected to be robust to this violation. Using the Pillais criterion, a significant multivariate effect was found between the groups ($F_{2,165} = 5.80, p < 0.01$), on the two dependent variables. To maintain family wise error at an alpha level of 0.05 for the variable set, univariate significance was evaluated at an alpha level of 0.025.

Secondary control failed to reach significance ($F_{1,166} = 4.44, p > 0.025$), indicating that hypothesis one was not supported. Victimization exhibited significance

($F_{1,166} = 10.12, p < 0.01$), such that lesbian and gay respondents reported higher rates of victimization compared to heterosexual respondents. Effect size, however, was modest (0.06), indicating that the strength of association between victimization and sexual preference is weak.

6.4.2 Hypothesis Three

The third hypothesis stated that lesbians and gay respondents will exhibit less primary control over the domain of safety and family, compared to heterosexual respondents. No differences will be found for the remaining domains. Prior to analysis, linearity and multicollinearity and singularity were assessed in a manner similar to the previous hypotheses, and were upheld. At the univariate level, Bartlett's-Box test indicated that the variables family ($F_{1,83} = 14.19, p < 0.001$), and friends ($F_{1,83} = 8.12, p < 0.01$) violated the assumption of homogeneity of variance-covariance. As F-max is small (2.32) this should not be a concern. Box's M Test indicated that the assumption of multivariate homogeneity of variance-covariance was also violated ($F_{36,926} = 2.12, p < 0.001$). As the larger group, lesbians and gays, exhibited larger variances and covariances than the smaller group, univariate F-tests should be robust to this violation.

Multivariate significance was assessed using the Pillais criterion and revealed no difference between the groups on the eight primary control variables ($F_{8,159} = 1.55, p > 0.05$). Thus, hypothesis three was not supported.

As previously described, however, MANOVA is particularly sensitive to outliers (Tabachnick & Fidell, 1996). Therefore, a further MANOVA was performed, after applying square root transformations to the variables which freed them of univariate outliers. The Pillais criterion continued to exhibit no multivariate significant difference ($F_{8,159} = 1.46, p > 0.05$).

6.4.3 Hypothesis Four

The fourth hypothesis stated that primary control would exhibit a significant relationship with secondary control. The primary control variable was obtained by summing the eight primary control domains, secondary control was the total number of external items endorsed on Rotter's (1966) scale. The hypothesis was tested using a Pearson Product - Moment correlation. Prior to analysis, an examination of a bivariate scatter-plot indicated that the relationship between primary and secondary control was linear and homoscedastic.

Supporting the hypothesis, the analysis revealed a significant relationship between primary and secondary control ($r = -0.38, p < 0.001$). The strength of the relationship between these two constructs, however, is modest ($r^2 = 0.14$).

6.4.4 Hypothesis Five

The fifth hypothesis stated that primary control would make a greater contribution to SQOL than secondary control, in both lesbian/gay and heterosexual groups. This was tested using a simultaneous multiple regression analysis, with SQOL forming the dependent variable, and primary and secondary control the independent variables.

Tabachnick and Fidell (1996) suggest that when a dependent variable is skewed, as was the case with primary control, the ratio of cases to independent variables should be greater than the minimum requirement, in this instance 66 cases per group. With 85 and 83 cases in the lesbian/gay and heterosexual groups respectively, this criteria has been fulfilled.

An examination of the squared multiple correlations (SMC) between the two independent variables revealed that the assumption of multicollinearity and singularity was upheld in each group. Normal probability plots indicated that the assumption of normality was met, and an examination of residual scatter-plots revealed linear and homoscedastic relationships between predicted values and errors of prediction, for each group.

Table 5 displays the correlations between the variables and the components of the regression analysis, for both groups. The analysis revealed that **R** was significant for both the lesbian/gay ($F_{2,82} = 33.18, p < 0.001$) and heterosexual groups ($F_{2,80} = 20.02, p < 0.001$).

Approximately 43 percent and 32 percent of the variance in SQOL was predicted by the control variables for the lesbian/gay and heterosexual groups, respectively. Primary control contributed significantly to SQOL for both the lesbian/gay ($F_{1,82} = 36.46, p < 0.001$) and heterosexual groups ($F_{1,80} = 40.04, p < 0.001$), contributing approximately 25 percent and 33 percent unique variance to SQOL, respectively. Secondary control failed to contribute significantly to SQOL in either group.

Table 5

Simultaneous Multiple Regression Analysis of Primary Control (Prim) and Secondary Control (Sec) Variables on SQOL for Lesbian/Gay and Heterosexual Groups

Lesbian/Gay					Heterosexual				
(n=85)					(n=83)				
Var's	SQOL	Prim	B	β sr ² (unique)	SQOL	Prim	B	β sr ² (unique)	
Prim	.66		4.89***	.58 .25	.57		4.35***	.58 .33	
Sec	-.45	-.53	-1.15	-.14 .01	.01	-.14	.63	.09 .01	
Intercept = -62.76					Intercept = -66.05				
	SQOL	Prim	Sec		SQOL	Prim	Sec		
Mean	70.09	30.56	14.45		78.47	31.28	13.15		
SD	35.07	4.18	4.29		25.88	3.46	3.64		
R ² = .45 ^a					R ² = .33 ^b				
Adjusted R ² = .43					Adjusted R ² = .32				
R = .67***					R = .58 ***				
*** p < 0.001.									
^a unique variability = 0.25 shared variability = 0.18					^b unique variability = 0.33 shared variability = 0.00				

Two significant findings, only evident in the lesbian and gay group, are of interest. First, secondary control correlated with SQOL ($r = -0.45$, $p < 0.001$). Second, primary control correlated with secondary control ($r = -0.53$, $p < 0.001$).

This latter result suggests that the finding of a significant correlation between primary and secondary control, in hypothesis four, only applies to lesbian and gays. Finally, a calculation of shared variance, obtained by subtracting R^2 from the unique variance contributed by primary control, indicated that primary and secondary control jointly contributed approximately 18 percent variance to SQOL for lesbian and gay respondents. Jointly, primary and secondary control contributed no additional variance to SQOL for heterosexual respondents.

To summarise, the major findings indicate that lesbians and gays experience higher rates of victimisation, and are less satisfied with family intimacy, compared to heterosexuals. No group differences were found in primary or secondary control. Finally, for both groups, primary control made a greater contribution to SQOL, compared to secondary control.

7.0 Discussion

The central aim of this study was to assess the association between primary and secondary control processes, SQOL and sexual preference. The latter variable was defined in regard to both sexual behaviour, sexual attraction and affective variables. Primary control, the perception that one can actively influence and alter their environment, was measured by adapting Cummins' ComQol (1993) scale to assess perceived primary control over eight life domains. Secondary control, the sustainment of control by cognitively adapting to one's environment, was measured using Rotter's (1966) locus of control scale. A further aim of this study was to assess the relationship between primary and secondary control. The results generated from hypotheses testing, their relationship to previous literature, and implications will be discussed first. Followed by an examination of the studies limitations and suggestions for future research.

7.1 The Relationship Between Primary and Secondary Control

The most interesting finding was that primary and secondary control were only related in the lesbian and gay group. An initial examination of the association between primary and secondary control ($r = -0.38$) appeared to support the hypothesis that both constructs would exhibit a significant relationship. A further examination of the correlation coefficients in the lesbian and gay ($r = -0.53$) and heterosexual groups ($r = -0.14$) revealed, however, that the former group primarily contributed to this finding.

Suggestions in regard to both the magnitude and direction of the relationship between these two constructs were presented in the introduction. In regard to the magnitude, primary and secondary control were expected to be related due to the theoretical proposal (Rothbaum et al., 1982) that both processes are "intertwined" and "co-existing" (p.8). The absence of a relationship between these two constructs in the heterosexual group is inconsistent with this proposal. It is also inconsistent with the assumption (Thompson, Nanni et al., 1994) that primary and secondary processes are related, both being subsumed under the general rubric of control.

Two reasons for a negative relationship between primary and secondary control were suggested in the introduction. First, as measurement generally involves a binary choice between a primary or secondary alternative, the presumed reciprocity between these two processes would result in a negative relationship. However, as the current study did not assess primary and secondary control using binary statements, the negative direction between primary and secondary control cannot be due to this measurement issue.

Second, Rothbaum et al., (1982) have proposed that when primary control decreases, secondary control increases, thereby implying a negative relationship. Support for this proposal was provided by Ryff (1989) who found a negative relationship between environmental mastery, construed as primary control, and the secondary processes of illusory and vicarious control. The finding of a significant negative relationship between primary and secondary control in the lesbian and gay group supports Ryff's finding, and can be interpreted in light of Rothbaum et al.'s. proposal through the following illustrative example.

In seeking employment, lesbians and gays are exerting primary control as they are acting upon the environment to fulfil a certain need. In the interview process, however, lesbians and gays are no doubt aware that if their sexual preference is revealed the interviewer may discriminate against them. Thus, during the process of the interview perceptions of primary control may decrease and secondary control increase by the employment of predictive control, where they guard against disappointment by anticipating a possibly discriminatory outcome if this event occurs.

Thus, lesbians and gays actively influence their environment by exerting primary control but, in the face of discrimination, also cognitively adapt to less favoured outcomes. Consistent with this reasoning, it would be expected that primary and secondary processes would be independent for heterosexual respondents as they may not face the same environmental challenges as lesbians and gays, and therefore do not have to utilise both processes.

This interpretation has implications for Rothbaum et al's., (1982) proposal of an intertwining relationship between primary and secondary control. Rather, this relationship would only be evident in groups where situational variables would suggest that both processes are typically employed.

This interpretation may shed light on the inconsistent findings reviewed in the introduction, in regard to both the magnitude and the direction of the relationship between primary and secondary control. Findings in regard to group differences in secondary control present an interesting extension of this interpretation.

7.2 Secondary Control

Contrary to the prediction, no significant differences were found between lesbians/gays and heterosexuals in regard to absolute levels of secondary control. In the light of the previous finding, this result is not surprising. That is, within the lesbian and gay group secondary processes do not necessarily dominate but, unlike the heterosexual group, lesbians and gays may differ in the manner in which they employ this process.

This interpretation can explain the seeming inconsistency between this and Birt and Dion's (1987) finding. Birt and Dion found that an ELOC significantly predicted perceptions of discrimination in a lesbian and gay sample. Consequently, the current prediction of group differences in secondary control was based on the rationale that lesbians and gays may adapt to an often discriminatory environment by employing this process. Birt and Dion's subjects, however, lived in a salient lesbian and gay community which suggests that they may have been more vulnerable to anti-lesbian and gay sentiment and, as such, have heightened perceptions of discrimination.

Given the stigmatised position of lesbians and gays, it would seem unlikely that the current lesbian and gay respondents were unaware of discrimination. Their environment, however, may be relatively more lesbian and gay friendly than the environment experienced by Birt and Dion's subjects.

Consequently, the current subjects' perceptions of discrimination may not be of such a magnitude that secondary processes dominate, rather, both primary and secondary processes are employed depending on the environmental challenges. The salience of secondary control for lesbian and gay respondents was again highlighted when examining the relationship between primary and secondary processes and SQOL.

7.3 The Contribution of Primary and Secondary Control to Subjective Quality of Life

A simultaneous multiple regression analysis revealed that primary control made a significant contribution to SQOL in both lesbian/gay and heterosexual groups, contributing approximately 25 and 33 percent unique variance in each group, respectively. This supports the hypothesis that primary control would make a greater contribution to SQOL.

As previously described, Heckhausen and Schulz (1995) argue that primary control is of greater functional importance than secondary control as it is necessary to act upon the environment to fulfil one's needs and potential. As the fulfilment of needs has been related to SQOL (Liu, 1975), the finding that primary control significantly contributed to SQOL is not surprising.

Although the bivariate relationship between SQOL and secondary control was significant in the lesbian and gay group ($r = -0.45$), secondary control did not make a significant contribution to SQOL in either group. The reason being that in the lesbian and gay group, primary control contributed approximately 25 percent unique variance to SQOL, jointly however, primary and secondary control contributed 18 percent shared variance to this construct.

The negative direction between secondary control and SQOL for lesbian and gays suggests that as secondary control increases, SQOL decreases. As secondary control has been conceptualised as a cognitive adaption to a less favoured outcome (Thompson, Collins et al., 1996), it seems plausible that the utilisation of this process would be associated with lowered perceptions of life satisfaction. This finding suggests that secondary control is not, as conceptualised by Rothbaum et al., (1982), a functional control alternative.

The findings presented in the last three sections suggest an interesting interpretation of primary and secondary processes in lesbian and gay respondents. Namely, lesbians and gays do not differ from heterosexuals in regard to absolute levels of secondary control. They may, however, differ in the manner in which they employ this process, utilising both primary and secondary control to flexibly adapt to an often discriminatory environment. Primary control makes a greater contribution, than secondary control, to SQOL. This is not surprising given the negative association between the latter two constructs for these subjects.

7.4 Victimization

Consistent with the prediction of group differences in victimisation, lesbians and gays exhibited significantly higher rates of victimisation compared to heterosexuals. Although the strength of association between victimisation and sexual preference was only modest, it is important to note that group differences emerged even though the following three attempts were made to control for bias evident in previous research.

First, a comparable heterosexual control group was employed. This overcame bias evident in previous research (e.g., Aurand, Addessa & Bush, 1985) utilising population survey data for comparative purposes, where no attempt was made to ensure that the control group was heterosexual, and displayed similar demographic features to that of the lesbian and gay group to be compared. Second, unlike previous studies, when rates of victimisation were requested no reference was made to the assumed association between this variable and sexual preference. This overcame a possible priming effect, and also the problems inherent in discerning that an attack was prejudicial in nature. Third, respondents were requested to only report victimising events that had occurred in the past two years. As previous studies typically do not specify a time restraint, this partly overcame the problems inherent in retrospective reports, such as the fallibility of memory.

A final comment on the relationship among the victimisation variables is that the reliability analysis revealed that property damage did not contribute to the victimisation construct. This finding has intuitive appeal.

Although property damage could occur because of victimisation, it differs from the other seven variables as it does not necessarily involve direct contact with the victim. As this variable did not contribute to the victimisation construct it has implications for researchers (e.g., D'Augelli, 1992, von Schulthess, 1992) who utilise this variable when assessing lesbian and gay victimisation.

As it appears that this is the only study that has used a heterosexual control group to compare rates of victimisation, the finding of group differences is important. In particular, it highlights the necessity for societal attention to the victimisation suffered by many society members. Interestingly, however, although lesbians and gays experience greater rates of victimisation compared to heterosexuals, there was no group differences in perceptions of primary control over the domain of safety.

7.5 Primary Control in the Domain of Safety

The absence of group differences in primary control over safety suggests, contrary to Garnet's et al's (1990) proposal that victimising events shatter the assumption that the world is meaningful and perceptions of control over future outcomes, that lesbians and gays take active control over their safety needs. This interpretation is consistent with research (e.g., Herek, 1993, National Gay Task Force, 1984) indicating that lesbians and gays often modify their behaviour after victimisation.

It was suggested in the introduction that the relationship shown to exist (Winkel & Denkers, 1994) between behavioural attributions to a victimising event and perceptions of controllability, may not generalise to lesbians and gays. This was because subjects in victimisation research are individually "singled out" (Janoff-Bulman & Frieze, 1983, p.8), and are not continually exposed to the possibility of victimisation in the same manner as lesbians and gays. The current finding suggests, however, consistent with the finding in the general population, that attributions to one's behaviour, and hence a controllable aspect of the self, are related to perceived controllability over future outcomes (Janoff-Bulman & Frieze).

Alternatively, however, victimising events may not have been of sufficient strength to impact on perceptions of primary control. As verbal harassment was the most common form of abuse for lesbians and gays it is unlikely that this form of victimisation impacts on perceptions of primary control in the same manner as more serious assaults, such as being chased or physically assaulted. As the length of time elapsed between victimisation and the completion of the questionnaire is unknown, it is possible that when victimisation occurred primary control over safety was reduced, but over time was regained. Indeed, it is possible that behavioural modifications, typically employed by victimised lesbians and gays, are an active attempt to regain primary control.

A final variable possibly implicated in the lack of group differences in primary control is geographic location. Respondents were recruited from urban areas which typically have well established and supportive lesbian and gay communities (Dorfman et al., 1995). As community affiliation has shown to be associated with a number of positive psychological outcomes (Fassinger, 1991, Harry, 1993, Walters & Simoni, 1993), the association between victimisation and primary control may be ameliorated by community influences for these subjects.

In addition to the absence of group differences in safety, there was no group differences on any other primary control domains. This is inconsistent with the prediction of group differences in the domain of family.

7.6 Primary Control in the Domain of Family

The absence of group differences in primary control over family is surprising given the amount of research documenting the typically adverse familial reactions to the discovery that a family member is lesbian or gay (e.g., McWhirter & Mattison, 1984, Aurand, Addessa & Bush, 1985). A possible explanation is that lesbian and gay respondents may not have been exposed to adverse familial reactions upon disclosing their sexual preference, or they may not have disclosed this information to family members. It was revealed, however, that lesbians and gays are significantly less satisfied with family, compared to heterosexuals. As it is quite possible that dissatisfaction is related to poor family relations due to a member's sexual preference, the previous interpretation seems unlikely.

An examination of the variable descriptives in Table 4 indicated that the mean for perceived control over family was 3.48 for the lesbian and gay group, and 3.88 for the heterosexual group. Standard deviations in the lesbian and gay group indicated that "family" exhibited larger variability ($SD = 1.13$) compared to the seven other variables, which ranged from 0.68 to 0.98 standard deviations. This pattern was not evident in the heterosexual group, where the standard deviation for "family" was 0.74, with the remaining variables ranging from 0.58 to 0.85 standard deviations. A calculation of the coefficient of variation ($SD \div \text{mean} \times 100$), suggested large differences in variability between lesbian/gay (32.47%) and heterosexual groups (19.07%). This indicates that lesbians and gays have a more varied perception of primary control over family compared to heterosexuals, and elevated intra-group variance may have contributed to the lack of group differences.

A final comment concerns the item construction in the ComQol (Cummins, 1993). The finding that there was significant group differences in satisfaction with family suggests that for certain populations, intimacy with family and friends should not be subsumed under one item. Future researchers utilising this scale should consider the characteristics of their sample to determine whether subjects would be likely to make differential ratings in regard to these two variables.

Interestingly, an examination of the primary control variables revealed generally high levels of primary control. This suggest the possibility of a normative range for primary control.

7.7 The Possibility of a Normative Range for Primary Control

With the exception of community, the primary control variables exhibited a negative skew in both groups. A calculation of the percent of scale maximum revealed that both groups fell only slightly below Cummins' (1995) normative SQOL range of 70 to 80 percent of the scale maximum. This suggests that moderately high levels of perceived primary control are possibly inherent in nature. Cummins explained his finding of a normative SQOL range by suggesting that life satisfaction is maintained at a relatively consistent, and moderately high, level by internal homeostatic mechanisms. This, he maintained, would be highly adaptive, ensuring that under relatively stable conditions most people felt satisfied with their lives.

As control, like satisfaction, has been posited as essential for well-being and, as previously described, has a close association (Cooper et al., 1995) and causal relationship (Headey et al., 1984) with life satisfaction, similar mechanisms could be involved in the maintenance of primary control. Support for the close relationship between these two variables is evident in an examination of the percent of scale maximum scores for both SQOL and primary control (Table 2 and 4 respectively). In the lesbian and gay group, for example, scores on both SQOL and primary control over family are low. Additionally, the regression analysis revealed that primary control contributed significantly to SQOL for both groups.

7.8 Limitations and Future Research

Limitations are evident in regard to sampling and measurement. Each will be examined respectively. As respondents were primarily recruited through the previously described “snow-balling” technique, the sample was non-random and respondent characteristics were similar to those of the author. Subsequently, the concerns expressed by Berrill (1990) in regard to the lack of representativeness, in lesbian and gay samples, of people who are elderly, disabled, socio-economically disadvantaged, or from a racial minority, are applicable here. Due to these limitations, results are unable to be generalised beyond the parameters of this study.

The age of the sample and urban residency pose two further limitations. In regard to the first variable, there was an under-representation of young respondents, that is twenty years and under. As younger, compared to older lesbian and gay respondents, may have less adaptive control mechanisms, the influence of discrimination and victimisation on perceptions of control may be different for younger age groups. In regard to the second variable, respondents were recruited from urban areas only. As previously discussed, the possible ameliorative effects of community affiliation on perceptions of primary control may not apply to country residents who do not have access to a lesbian and gay community.

In regard to measurement, a possible limitation is that the primary and secondary measures differ on two underlying dimensions. The primary measure, for example, is quantitative in nature, thereby measuring the amount of control an individual perceives they have. In contrast, Rotter's scale (1966) is qualitative in nature, thereby measuring the type of control, internal or external, an individual employs. As previously described, Rotter's scale is also a global assessment of "control beliefs" in regard to "one's own ability", and the "ability of people in general", to obtain a certain outcome (Thompson & Spacapan, 1991, p.8). In contrast, although a global measure of primary control can be obtained by summing each domain, the primary scale is essentially a domain specific measure of "one's own ability" to obtain a certain outcome.

Notwithstanding the above limitations, these should not unduly influence the results. A feature common to both the primary scale and Rotter's (1966) internal items, purported to measure primary control (Rothbaum et al., 1982), is that both are concerned, albeit to varying degrees, with an individual's internal perception of their ability to effect change.

Two areas are of interest for future research. First, the examination of primary and secondary control processes in groups whose members are susceptible to discrimination would determine whether the relationship between primary and secondary control is associated with certain sub-groups. Second, a refinement of the primary control measure, and the creation of a secondary alternative, would be beneficial for research investigating primary and secondary control processes. An instrument applicable to all populations and covering life domains, would allow comparative studies and an examination of primary and secondary processes in particular life areas.

The findings of this study suggest that lesbians and gays respond to their environment by utilising both primary and secondary processes in situations, where heterosexuals are more likely to simply employ primary control. In the absence of group differences in the absolute levels of primary and secondary control, this suggests a relationship which may underpin adaptive control mechanisms. Such mechanisms may allow lesbians and gays, and indeed any sub-group susceptible to discrimination, to respond to environmental challenges in a flexible and functional manner.

References

Affleck, G., Tennen, H., & Gershman, K. (1985). Cognitive adaptations to high-risk infants: The search for mastery, meaning, and protection from future harm. American Journal of Mental Deficiency, 89 (6), 53-656.

Andrews, F. M., & McKennell, A. C. (1980). Measures of self-reported well-being: Their affective, cognitive and other components. Social Indicators Research, 8, 127-155.

Andrews, F. M., & Robinson, J. P. (1991). Measures of subjective well-being. In J. P. Robinson., P. R. Shaver., & L.S. Wrightsman (Eds.), Measures of personality and social psychological attitudes (pp. 61-114). New York: Academic Press.

Andrews, F. M., & Withey, S. B. (1976). Social indicators of well-being: American's perceptions of life quality. New York: Plenum Press.

Aurand, S. K., Addessa, R., & Bush, C. (1985). Violence and discrimination against Philadelphia lesbian and gay people: A study by the Philadelphia lesbian and gay task force. Philadelphia: Philadelphia Lesbian and Gay Task Force.

Averill, J. R. (1973). Personal control over aversive stimuli and its relationship to stress. Psychological Bulletin, 80, 286-303.

Azuma, H. (1984). Secondary control as a heterogeneous category. American Psychologist, 39 (9), 970-971.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. Psychological Bulletin, 37, 122-147.

Berkey, B. R., Perelman-Hall, T., & Kurdek, L. A. (1990). The multidimensional scale of sexuality. Journal of Homosexuality , 19 (4), 67-87.

Berrill, K. T. (1990). Anti-gay violence and victimisation in the United States: An overview. Journal of Interpersonal Violence, 5 (3), 274-294.

Birt, C. M., & Dion, K. L. (1987). Relative deprivation theory and responses to discrimination in a gay male and lesbian sample. British Journal of Social Psychology, 26, 139-145.

Bishop, R. C., & Solomon, E. (1989). Sex differences in career development: Locus of control and career commitment effects. Psychological Reports, 65, 107-114.

Brems, C., & Johnson, M. E. (1989). Problem-solving appraisal and coping style. The influence of sex-role orientation and gender. Journal of Psychology, 123, 187-194.

Burton, C. A., & Sistler, A. B. (1996). A note on whether spousal caregivers try to control their environment or themselves. Journal of Psychology, 130 (4), 421-427.

Campbell, A., Converse, P. E., & Rodgers, W. L. (1976). The quality of American life: Perceptions, evaluations, and satisfactions. New York: Russell Sage Foundation.

Chung, Y. B., & Katayama, M. (1996). Assessment of sexual orientation in lesbian/gay/ bisexual studies. Journal of Homosexuality, 30 (4), 49-62.

Coakes, S. J., & Steed, L. G. (1996). SPSS for windows: Analysis without anguish. Brisbane: John Wiley & Sons.

Collins, B. E. (1974). Four components of the Rotter internal-external scale: Belief in a difficult world, a just world, a predictable world, and a politically responsive world. Journal of Personality and Social Psychology, 29 (3), 381-391.

Comstock, G. D. (1991). Violence against lesbians and gay men. New York: Columbia University Press.

Cooper, H., O'Kamura, L., & McNeil, P. (1995). Situation and personality correlates of psychological wellbeing: Social activity and personal control. Journal of Research in Personality, 29, 395-417.

Cox, G. (1990). The streetwatch report: A study into violence against lesbians and gay men. Sydney: Gay and Lesbian Rights Lobby Inc.

Cummins, R. A. (1993). Comprehensive Quality of Life Scale for Adults (4th ed.). Melbourne: Deakin University, School of Psychology.

Cummins, R. A. (1995). On the trail of the gold standard for subjective well-being. Social Indicators Research, 35, 179-200.

Cummins, R. A. (1997). Assessing quality of life. In R. I. Brown (Ed.), Quality of life for handicapped people (pp.116-150). Cheltenham, England: Stanley Thomas.

Cummins, R. A. (1997). Comprehensive Quality of Life Scale for Adults (5th ed.). Melbourne: Deakin University, School of Psychology.

Cummins, R. A. (1997, in press). The domains of life satisfaction: An attempt to order chaos. Social Indicators Research.

D'Augelli, A. R. (1992). Lesbian and gay male undergraduates experiences of harassment and fear on campus. Journal of Interpersonal Violence, 7 (3), 383-395.

De Cecco, J. P., & Parker, D. A. (1995). The biology of homosexuality: Sexual orientation or sexual preference? Journal of Homosexuality, 28 (1/2), 1-27.

De Charms, R. (1968). Personal causation: The internal affective determinants of behavior. New York: Academic Press.

Diener, E. (1984). Subjective well-being. Psychological Bulletin, 95 (3), 542-575.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffen, S. (1985). The Satisfaction with Life Scale. Journal of Personality Assessment, 49, 71-75.

Doherty, W. J., & Baldwin, C. (1985). Shifts and stability in locus of control during the 1970's: Divergence of the sexes. Journal of Personality and Social Psychology, 48 (4), 1048-1053.

Donovan, J. M. (1992). Homosexual, gay and lesbian: Defining the words and sampling the populations. Journal of Homosexuality, 23 (3), 27-47.

Dorfman, R., Walters, K., Burke, P., Hardin, L., Karanik, T., Raphael, J., & Silverstein, E. (1995). Old, sad and alone: The myth of the aging homosexual. Journal of Gerontological Social Work, 24 (1/2), 29-44.

Emmons, R. A., & Diener, E. (1985). Personality correlates of subjective well-being. Personality and Social Psychology Bulletin, 11 (1), 89-97.

Equal Opportunity Commission (1997). Same sex relationships and the law: Discussion paper. Melbourne: Unpublished.

Fabian, E. S. (1990). Quality of life: A review of theory and practice implications for individuals with long-term mental illness. Rehabilitation Psychology, 35 (3), 161-169.

Fassinger, R. E. (1991). The hidden minority: Issues and challenges in working with lesbian women and gay men. The Counseling Psychologist, 19 (2), 157-176.

Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. (1986). The dynamics of stressful encounter: Cognitive appraisal, coping and encounter outcomes. Journal of Personality and Social Psychology, 50, 992-1003.

Gays and Lesbians Against Discrimination. (1994). Not a day goes by. Melbourne: Author.

Garnets, L., Herek, G. M., & Levy, B. (1990). Violence and victimisation of lesbians and gay men: Mental health consequences. Journal of Interpersonal Violence, 5 (3), 367-381.

Glass, D. C., & Singer, J. E. (1972). Urban stress: experiments on noise and social stressors. New York: Academic Press.

Graham, S. (1994). Motivation in African Americans. Review of Educational Research, 64 (1), 55-117.

Harry, J. (1993). Being out: A general model. Journal of Homosexuality, 26 (1), 25-38.

Headey, B., & Holmstrom, E., & Wearing, A. (1984). Well-being and ill-being: Different dimensions. Social Indicators Research, 14, 115-139.

Headey, B., & Wearing, A. (1987). A theory of life satisfaction and psychological distress. Melbourne: Melbourne University.

Headey, B., & Wearing, A. (1992). Understanding happiness: A theory of subjective well-being. Melbourne: Longman Cheshire.

Heckhausen, J., & Schulz, R. (1995). A life-span theory of control. Psychological Review, 102 (2), 284-304.

Herek, G. M. (1985). On doing, being and not being: Prejudice and the social construction of sexuality. Journal of Homosexuality, 12 (1), 135-151.

Herek, G. M. (1989). Hate crimes against lesbians and gay men: Issues for research and policy. American Psychologist, 44 (6), 948-955.

Herek, G. M. (1990). The context of anti-gay violence: Notes on cultural and psychological heterosexism. Journal of Interpersonal Violence, 5 (3), 316-333.

Herek, G. M. (1993). Documenting prejudice against lesbians and gay men on campus: The Yale sexual orientation survey. Journal of Homosexuality, 25 (4), 15-30.

Janoff-Bulman, R. (1989). Assumptive worlds and stress of traumatic events: Applications of the schema construct. Social Cognition, 7 (2), 113-136.

Janoff-Bulman, R., & Frieze, I. H. (1983). A theoretical perspective for understanding reactions to victimization. Journal of Social Issues, 39 (2), 1-17.

Kidd, R. F., & Chayet, E. F. (1984). Why do victims fail to report? The psychology of criminal victimization. Journal of Social Issues, 40 (1), 39-50.

Kinsey, A. C., Pomeroy, W. B., Martin, C. E., & Gebhard, P. E. (1948). Sexual behavior in the human male. Philadelphia: W. B. Saunders.

Klien, F., Sepekoff, B., & Wolf, T. J. (1985). Sexual orientation: A multi-variate dynamic process. Journal of Homosexuality, 11 (1/2), 35-49.

Kurdek, L. A. (1988). Perceived social support in gays and lesbians in cohabitating relationships. Journal of Personality and Social Psychology, 54 (3), 504-509.

Kurdek, L. A., & Schmitt, J. P. (1987). Perceived emotional support from family and friends in members of gay, lesbian, and heterosexual cohabitating couples. Journal of Homosexuality, 14, 57-68.

Layton, C. (1985). Note on the stability of Rotter's I-E scale. Psychological Reports, 57, 1165-1166.

Lesbian and Gay Anti-Violence Project. (1992). The off our backs report: A study into anti-lesbian violence. Sydney: Sydney Gay and Lesbian Rights Lobby Inc.

Levenson, H. (1974). Activism and powerful others: Distinctions within the concept of internal-external control. Journal of Personality Assessment, 38, 377-383.

Liu, B. C. (1975). Quality of life: Concept, measure and results. American Journal of Economics and Sociological Bulletin, 34, 1-13.

Lumpkin, J. R. (1985). Validity of a brief locus of control scale for survey research. Psychological Reports, 57, 655-659.

McWhirter, D. P., & Mattison, A. M. (1984). The male couple: How relationships develop. Englewood Cliffs, NJ : Prentice-Hall.

Meeberg, G. A. (1993). Quality of life: A concept analysis. Journal of Advanced Nursing, 18, 32-38.

Mendola, R., Tennen, H., Affleck, G., McCann, L., & Fitzgerald, T. (1990). Appraisal and adaption among women with impaired fertility. Cognitive Therapy and Research, 14 (1), 79-93.

National Gay Task Force: In cooperation with gay and lesbian organisations in eight U.S. cities (1984). Anti-gay/lesbian victimisation. Philadelphia: Author.

Pearlin, L. I., & Schooler, C. (1978). The structure of coping. Journal of Health and Social Behavior, 19, 2-21.

Peterson, C., & Seligman, M. E. P. (1983). Learned helplessness and victimisation. Journal of Social Issues (2), 103-116.

Reed, G. M., Taylor, S. E., & Kemeny, M. E. (1993). Perceived control and psychological adjustment in gay men with AIDS. Journal of Applied Social Psychology, 23 (10), 791-824.

Reid, D. W., & Ware, E. E. (1973). Multidimensionality of internal-external control: Implications for past and future research. Canadian Journal of Behavioral Science, 5, 264-271.

Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A two-process model of perceived control. Journal of Personality and Social Psychology, 42 (1), 5-37.

Rothblum, E. D. (1994). "I only read about myself on bathroom walls": The need for research on the mental health of lesbians and gay men. Journal of Consulting and Clinical Psychology, 62 (2), 213-220.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs: General and Applied, 80 (1), 1-28.

Ryff, C. D. (1989). Happiness is every thing or is it? Explorations on the meaning of psychological well-being. Journal of Personality and Social Psychology, 57 (6), 1069-1081.

Schulthess, B. von (1992). Violence in the streets: Anti-lesbian assault and harassment in San Francisco. In G. M. Herek., & K. T. Berrill (Eds.), Hate crimes: Confronting violence against lesbians and gay men (pp.65-75). California: Sage.

Seginer, R., Trommsdorff, G., & Essau, C. (1993). Adolescent control beliefs: Cross-cultural variations of primary and secondary orientations. International Journal of Behavioral Development, 16 (2), 243-260.

Seligman, M. E. P. (1975). Helplessness. San Francisco: Freeman.

Sell, R. L., & Petruccio, C. (1996). Sampling homosexuals, bisexuals, gays, and lesbians for public health research: A review of the literature from 1990 to 1992. Journal of Homosexuality, 30 (4), 31-47.

Shapiro, D. H., Schwartz, C. E., & Austin, J. A. (1996). Controlling ourselves, controlling our world: Psychology's role in understanding positive and negative consequences of seeking and gaining control. American Psychologist, 51 (12), 1213-1230.

Shaughnessy, J. J., & Zechmeister, E. B. (1994). Research methods in psychology (3rd ed.). New York: McGraw-Hall.

Skinner, E. A. (1996). A guide to constructs of control. Journal of Personality and Social Psychology, 71 (3), 549-570.

Smith, H. L., & Dechter, A. (1991). No shift in locus of control among women during the 1970's. Journal of Personality and Social Psychology, 60 (4), 638-640.

Storms, M. D. (1980). Theories of sexual orientation. Journal of Personality and Social Psychology, 38 (5), 783-792.

Tabachnick, B. G., & Fidell, L. S. (1996). Using multivariate statistics (3rd ed.). New York: Harper Collins.

Thompson, S. C., Collins, M. A., Newcomb, M. D., & Hunt, W. (1996). On fighting versus accepting stressful circumstances: Primary and secondary control among HIV-positive men in prison. Journal of Personality and Social Psychology, 70 (6), 1307-1317.

Thompson, S. C., Nanni, C., & Levine, A. (1994). Primary versus secondary and central versus consequence-related control in HIV-positive men. Journal of Personality and Social Psychology, 67 (3), 540-547.

Thompson, S. C., & Spacapan, S. (1991). Perceptions of control in vulnerable populations. Journal of Social Issues, 47 (4), 1-21.

Walters, K. L., & Simoni, J. M. (1993). Lesbian and gay male group identity attitudes and self-esteem: Implications for Counseling. Journal of Counseling Psychology, 40 (1), 94-99.

Weisz, J. R., McCabe, M. A., & Dennig, M. D. (1994). Primary and secondary control among children undergoing medical procedures: Adjustment as a function of coping style. Journal of Consulting and Clinical Psychology, 62 (2), 324-332.

Weisz, J. R., Rothbaum, F. M., & Blackburn, T. S. (1984). Standing out and standing in: The psychology of control in America and Japan. American Psychologist, 39 (9), 955-969.

Wildstein, A. B., & Thompson, D. N. (1989). Locus of control, expectational set, and problem solving. Perceptual and Motor Skills, 68, 383-388.

Winkel, F. W., & Denkers, A. (1994). The effects of attributions on crime victims psychological readjustment. Genetic, Social, and General Psychology Monographs, 120 (2), 145-168.

Winkel, F. W., & Denkers, A. (1995). Crime victims and their social network: A field study on the cognitive effects of victimisation, attributional responses and the victim-blaming model. International Review of Victimology, 3, 309-322.

Wortman, C. B. (1983). Coping with victimization: Conclusions and implications for future research. Journal of Social Issues, 39 (2), 195-221.

Zhan, L. (1992). Quality of life: Conceptual and measurement issues. Journal of Advanced Nursing, 17, 795-800.

APPENDIX A

Plain Language Statement

My name is Michele Roberts and you are invited to participate in this research project which is being undertaken as a part of my Honours Degree in Psychology. This research is being supervised by Dr. Robert A. Cummins who is a Reader in Psychology at Deakin University.

The aim of this study is to examine how people feel about various aspects of their life, and how these feeling influence their sense of life quality. If you agree to participate you will be asked to complete a number of small questionnaires. This should take approximately twenty minutes. The questionnaires cover a number of areas. You will be asked, for example, about your feelings in regard to life in general and also about specific areas of your life, such as your health.

You will also be asked whether you have experienced any harassment or violence. For example, you will be asked whether or not you have been threatened with physical violence in the past two years. There are also a couple of questions which ask about your sexual experiences and feelings.

These questionnaires do not require any information that can be used to identify you, such as your name, so they are completely anonymous. You are free to withdraw from this study at any time without any consequence whatsoever.

If you have any queries concerning this project please feel free to contact myself or Dr. Cummins on 9244-6100. Should the questions on harassment make you feel worried, a list of counselling services is available on request. Please use the prepaid envelope to return this questionnaire to Deakin University as soon as possible. Thankyou.

APPENDIX B

Demographic Sheet

Please answer the items below before proceeding

YOUR AGE

(IN YEARS) _____

YOUR SEX

(PLEASE CIRCLE)

MALE

FEMALE

Please tick a box that most accurately describes your situation.

- 1a)** What is your personal or household (whichever is most relevant to you) gross annual income before tax?

Less than \$10,999

☐

\$41,000-\$55,999

☐

\$11,000-\$25,999

☐

More than \$56,000

☐

\$26,000-\$40,999

☐

- 1b)** Please tick a box (or boxes) that describes your education and training.

(a) Primary School only

☐

(b) Secondary School up to year 9 or 10
(3 to 4 years)

☐

up to year 11 (5 years)

☐

COMPLETED up to year 12 (form 6)

☐

(c) Completed a Trade Qualification

☐

(d) Diploma or Partial Degree

☐

(e) Completed a University Degree

☐

(f) Post-Graduate Qualification

☐

APPENDIX C

Sexual Preference Scale

Sexual Preference

For each question below circle the **ONE** number that **BEST** describes your sexual preference **NOW**.

- 1** = exclusively heterosexual
2 = mainly heterosexual
3 = Both heterosexual and homosexual
4 = mainly homosexual
5 = exclusively homosexual

Exclusively
Heterosexual

Exclusively
Homosexual

(Circle to Show)

- | | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1. How would you describe your physical sexual behaviour NOW? | | | | | |
| 2. How would you describe your sexual fantasies NOW? | | | | | |
| 3. How would you describe your emotional (love) preference NOW? | | | | | |
| 4. How would you describe your feelings of sexual attraction NOW? | | | | | |

APPENDIX D

Comprehensive Quality of Life Scale - Adults
(4th ed., Cummins, 1993)

How IMPORTANT are each of the following life areas to you?

There are no right or wrong answers. Please choose the box that best describes how **important** each area is to you.

1. How **Important** to you ARE THE THINGS YOU OWN?

Could not be more important	Very important	Somewhat important	Slightly important	Not important at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. How **Important** to you is YOUR HEALTH?

Could not be more important	Very important	Somewhat important	Slightly important	Not important at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3. How **Important** to you is WHAT YOU ACHIEVE IN LIFE?

Could not be more important	Very important	Somewhat important	Slightly important	Not important at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. How **Important** to you are CLOSE RELATIONSHIPS WITH YOUR FAMILY?

Could not be more important	Very important	Somewhat important	Slightly important	Not important at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. How **Important** to you are CLOSE RELATIONSHIPS WITH YOUR FRIENDS?

Could not be more important	Very important	Somewhat important	Slightly important	Not important at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. How **Important** to you is HOW SAFE YOU FEEL?

Could not be more important	Very important	Somewhat important	Slightly important	Not important at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. How **Important** to you is DOING THINGS WITH PEOPLE OUTSIDE YOUR HOME?

Could not be more important	Very important	Somewhat important	Slightly important	Not important at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. How **Important** to you is YOUR OWN HAPPINESS?

Could not be more important	Very important	Somewhat important	Slightly important	Not important at all
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

How SATISFIED are you with each of the following life areas?

Please answer by placing a (x) in the appropriate box for each question.

There are no right or wrong answers. Please choose the box that best describes how **satisfied** you are with each area.

1. How **Satisfied** are you with the THINGS YOU OWN?

Delighted Pleased Mostly satisfied Mixed Mostly dissatisfied Unhappy Terrible

2. How **Satisfied** are you with your HEALTH?

Delighted Pleased Mostly
satisfied Mixed Mostly
dissatisfied Unhappy Terrible

3. How **Satisfied** are you with what you ACHIEVE IN LIFE?

Delighted Pleased Mostly satisfied Mixed Mostly dissatisfied Unhappy Terrible

4. How **Satisfied** are you with your CLOSE RELATIONSHIPS WITH FAMILY?

Delighted Pleased Mostly satisfied Mixed Mostly dissatisfied Unhappy Terrible

APPENDIX E

**Internal-External Locus of Control Scale
(Rotter, 1966)**

Please answer these items *carefully* do not spend too much time on any one item. Be sure to find an answer for *every* choice. For each numbered question make an X on the line beside either the *a* or *b*, whichever you choose as the statement most true.

In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item *independently* when making your choice; do not be influenced by your previous choices.

Remember

Select that alternative which you *personally believe to be more true*.

I more strongly believe that:

1. a. ___ Children get into trouble because their parents punish them too much.
 b. ___ The trouble with most children nowadays is that their parents are too easy with them.
2. a. ___ Many of the unhappy things in people's lives are partly due to bad luck.
 b. ___ People's misfortunes result from the mistakes they make.
3. a. ___ One of the major reasons why we have wars is because people don't take enough interest in politics.
 b. ___ There will always be wars, no matter how hard people try to prevent them.
4. a. ___ In the long run people get the respect they deserve in this world.
 b. ___ Unfortunately, an individual's worth often passes unrecognised no matter how hard she/he tries.
5. a. ___ The idea that teachers are unfair to students is nonsense.
 b. ___ Most students don't realise the extent to which their grades are influenced by accidental happenings.
6. a. ___ Without the right breaks one cannot be an effective leader.
 b. ___ Capable people who fail to become leaders have not taken advantage of their opportunities.

7. a. ____ No matter how hard you try some people just don't like you
b. ____ People who can't get others to like them don't understand how to get along with others.
8. a. ____ Heredity plays the major role in determining one's personality.
b. ____ It is one's experiences in life which determine what they're like.
9. a. ____ I have often found that what is going to happen will happen.
b. ____ Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10. a. ____ In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
b. ____ Many times exam questions tend to be so unrelated to course work that studying is really useless.
11. a. ____ Becoming a success is a matter of hard work, luck has little or nothing to do with it.
b. ____ Getting a good job depends mainly on being in the right place at the right time.
12. a. ____ The average citizen can have an influence in government decisions.
b. ____ This world is run by a few people in power, and there is not much the little person can do about it.
13. a. ____ When I make plans I am almost certain that I can make them work.
b. ____ It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.
14. a. ____ There are certain people who are just no good.
b. ____ There is some good in everybody.
15. a. ____ In my case getting what I want has little or nothing to do with luck.
b. ____ Many times we might just as well decide what to do by flipping a coin.

16. a. ☐ Who gets to be the boss often depends on who was lucky enough to be in the right place first.
b. ☐ Getting people to do the right thing depends upon ability; luck has little or nothing to do with it.
17. a. ☐ As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
b. ☐ By taking an active part in political and social affairs the people can control world events.
18. a. ☐ Most people don't realise the extent to which their lives are controlled by accidental happenings.
b. ☐ There really is no such thing as "luck".
19. a. ☐ One should always be willing to admit their mistakes.
b. ☐ It is usually best to cover up one's mistakes.
20. a. ☐ It is hard to know whether or not a person really likes you
b. ☐ How many friends you have depends upon how nice a person you are.
21. a. ☐ In the long run the bad things that happen to us are balanced by the good ones.
b. ☐ Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22. a. ☐ With enough effort we can wipe out political corruption.
b. ☐ It is difficult for people to have much control over the things politicians do in office.
23. a. ☐ A good leader expects people to decide for themselves what they should do.
b. ☐ A good leader makes it clear to everybody what their jobs are.
24. a. ☐ Many times I feel that I have little influence over the things that happen to me.
b. ☐ It is impossible for me to believe that chance or luck plays an important role in my life.

25. a. ☐ People are lonely because they don't try to be friendly.
b. ☐ There's not much use in trying too hard to please people, if they like you, they like you.
26. a. ☐ There is too much emphasis on athletics in high school.
b. ☐ Team sports are an excellent way to build character.
27. a. ☐ What happens to me is my own doing.
b. ☐ Sometimes I feel that I don't have enough control over the direction my life is taking.
28. a. ☐ Most of the time I can't understand why politicians behave the way they do.
b. ☐ In the long run the people are responsible for bad government on a national as well as on a local level.

APPENDIX F

Primary Control Scale

How much control do you have over each of the following life areas?

There are no right or wrong answers. Please choose the box that best describes how much control you **feel** you have over each life area.

1). How much **control** do you have over your health?

Almost complete	A lot	Moderate	A little	Almost none
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2). How much **control** do you have over what you achieve in your life?

Almost complete	A lot	Moderate	A little	Almost none
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

3). How much **control** do you have over your own safety?

Almost complete	A lot	Moderate	A little	Almost none
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4). How much **control** do you have over maintaining close relationships with family?

Almost complete	A lot	Moderate	A little	Almost none
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5). How much **control** do you have over maintaining close relationships with friends?

Almost
complete

☐

A lot

☐

Moderate

☐

A little

☐

Almost
none

☐

6). How much **control** do you have in participating in activities with people outside your home?

Almost
complete

☐

A lot

☐

Moderate

☐

A little

☐

Almost
none

☐

7). How much **control** do you have over the amount of things you own?

Almost
complete

☐

A lot

☐

Moderate

☐

A little

☐

Almost
none

☐

8). How much **control** do you have over your own happiness?

Almost
complete

☐

A lot

☐

Moderate

☐

A little

☐

Almost
none

☐

APPENDIX G

Victimisation Scale

Please tick yes or no for each numbered question.

1). Have you had verbal insults directed at you in the past two years?

YES
☐

NO
☐

2). Have you been chased or followed in the past two years?

YES
☐

NO
☐

3). Have you been spat upon in the past two years?

YES
☐

NO
☐

4). Have you been threatened with physical violence in the past two years?

YES
☐

NO
☐

5). Have you been assaulted with physical violence in the past two years?

YES
☐

NO
☐

6). Have you had your personal property damaged or destroyed in the past two years?

YES

☐

NO

☐

7). Have you been sexually harassed (without assault) in the past two years?

YES

☐

NO

☐

8). Have you been sexually assaulted in the past two years?

YES

☐

NO

☐

APPENDIX H

Ethnical Approval

DUEC Subcommittee - Health & Behavioural Sciences
Faculty Of Health & Behavioural Sciences
Geelong Campus, Geelong, Victoria 3217
Telephone 052 272884 Facsimile 052-272499 email barnesj@deakin.edu.au



24 October, 1997

Bob Cummins
School of Psychology
Burwood

Dear Bob,

DSC-H85/97 Perceptions of Primary and Secondary Control in Lesbian/Gay and Heterosexual Samples

The amendment, submitted by **Michele Roberts**, has been reviewed by the Chair and will be recommended for approval. The amendment to the application is proceeding to the Deakin University Ethics Committee for ratification and, in the absence of any further advice, may commence.

Yours sincerely,

Jennifer Barnes

Jennifer Barnes
Secretary,
DUEC Subcommittee - Health & Behavioural Sciences