Sexual Orientation and Health

General and minority stress factors explaining health differences between lesbian, gay, bisexual, and heterosexual individuals

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Seksuele Oriëntatie en Gezondheid

Algemene en minderheidsstress verklaringen voor gezondheidsverschillen tussen lesbische, homoseksuele, biseksuele en heteroseksuele individuen

(met een samenvatting in het Nederlands)

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Lisette Kuyper

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CHAPTER 1

GENERAL INTRODUCTION

In times when homosexual individuals were considered severely emotionally disturbed, when they were fired, beaten up, and arrested due to the fact that they were gay, Evelyn Hooker applied for a research grant with the National Institute of Mental Health (NIMH) to conduct an empirical study on the mental health of homosexual and heterosexual men (Kimmel & Garnets, 2003). She received the funding and invited a matched sample of 60 homosexual and heterosexual men to participate (Hooker, 1957). She asked her participants to fill out the well-respected psychological and personality tests of her time: the Rorschach test, the Make-A-Picture-Story test, and the Thematic Apperception Test. Each test result was analyzed and judged by two independent clinical experts. The experts were asked to distinguish the test results of homosexual from heterosexual men. The study showed that the experts could not tell apart the test results from homosexual and heterosexual participants; there seemed to be no differences in the levels of psychosocial functioning or emotional stability among these groups of men. Based on these findings, Hooker came to the conclusion that "homosexuality as a clinical entity does not exist" (Hooker, 1957, p. 30).

Hooker was a pioneer in the field of lesbian, gay, and bisexual (LGB) studies. After her groundbreaking study, other researchers followed in her footsteps and their studies yielded comparable results. These results, together with the social change that was taking place outside the doors of research institutes and psychiatric clinics, eventually led to the removal of homosexuality as an official disease from the list of mental disorders by the American Psychiatric Association in 1973. In 1975, the American Psychological Association followed and stated that "homosexuality per se implies no impairment in judgment, stability, reliability, or general social and vocational capabilities" (Conger, 1975, p. 633). The removal of homosexuality as a disease from the list of psychiatric and mental disorders let to a paradigm shift in LGB

research. It shifted from a perception of homosexuality as a pathology that needed to be cured and eliminated (the illness model) to a research tradition that focused on the psychosocial characteristics of LGB individuals and the potential concerns of belonging to a sexual minority group (the minority group status model) (Garnets & Kimmel, 2003).

1.1 Health differences between LGB and heterosexual individuals

Although homosexuality is no longer regarded as a mental disorder per se, more recent empirical studies show that the levels of mental health problems are higher among LGB individuals than among heterosexual individuals (Cochran, Sullivan, & Mays, 2003; De Graaf, Sandfort, & Ten Have, 2006; Gilman et al., 2001; Herrell et al., 1999; Koh & Ross, 2006; Matthews, Hughes, Johnson, Razzano, & Cassidy, 2002; Meyer, 2003; Russell & Joyner, 2001; Sandfort, Bakker, Schellevis, & Vanwesenbeeck, 2006; Sandfort, de Graaf, & Bijl, 2003). Differences are found with regard to psychological distress (Cochran et al., 2003), depression (Cochran et al., 2003; Fergusson, Horwood, & Beautrais, 1999; Fergusson, Horwood, Ridder, & Beautrais, 2005; Gilman et al., 2001; Jorm, Korten, Rodgers, Jacomb, & Christensen, 2002; King et al., 2008; Sandfort et al., 2003), suicidality (De Graaf et al., 2006; Fergusson et al., 1999; Fergusson et al., 2005; Gilman et al., 2001; Jorm et al., 2002; King et al., 2008; Robin et al., 2002), anxiety disorders (Cochran et al., 2003; Fergusson et al., 1999; Fergusson et al., 2005; Gilman et al., 2001; Jorm et al., 2002; King et al., 2008; Sandfort et al., 2003), panic attacks (Cochran et al., 2003), and substance use (Corliss, Rosario, Wypij, Fisher, & Austin, 2008; Fergusson et al., 1999; Fergusson et al., 2005; Gilman et al., 2001; Gruskin, Greenwood, Matevia, Pollack, & Bye, 2007; Herrell et al., 1999; King et al., 2008; Marshal et al., 2008; Robin et al., 2002; Sandfort et al., 2003). These mental health differences between LGB and heterosexual individuals are found using a variety of study designs, such as population studies (e.g., Cochran et al., 2003; De Graaf et al., 2006; Gilman et al., 2001; Gruskin et al., 2007; Sandfort et al., 2006; Sandfort et al., 2003), community samples (e.g., Corliss et al., 2008; Fergusson et al., 1999; Jorm et al., 2002), twin studies (Herrell et al., 1999), and corroborated in meta-analyses and systematic reviews (King et al., 2008; Marshal et al., 2008; Meyer, 2003). Differences in mental

health between LGB and heterosexual individuals are also found in a range of demographic subgroups, including young individuals (Corliss et al., 2008; Fergusson et al., 1999; Fergusson et al., 2005; Marshal et al., 2008; Robin et al., 2002) and adults (Cochran et al., 2003; Gilman et al., 2001; Herrell et al., 1999; Jorm et al., 2002; Sandfort et al., 2006; Sandfort et al., 2003) and as well as among both women and men (Cochran et al., 2003; Corliss et al., 2008; Fergusson et al., 2005; Gilman et al., 2001; Gruskin et al., 2007; Jorm et al., 2002; Marshal et al., 2008; Robin et al., 2002; Sandfort et al., 2006; Sandfort et al., 2003). Moreover, differences are not only found in the area of mental health. Empirical studies show that, compared to heterosexual individuals, LGB individuals might also have poorer physical health (Sandfort et al., 2009), encounter more sexual health problems, including sexual violence or sexual dysfunction (Bancroft, Carnes, Janssen, Goodrich & Long, 2005; Barter, Mccarry, Berridge, & Evans, 2009; Coxell, King, Mezey & Gordon, 1999; Freedner, Freed, Yang, & Austin, 2002; Garofalo, Wolf, Kessel, Palfrey, & Durant, 1998; Henderson, Lehavot & Simoni, 2009; Hughes, Johnson & Wilsnack, 2001; Laumann, Paik & Rosen, 1999; Ratner et al., 2003; Saewyc et al., 2006; Tomeo, Templer, Anderson & Kotler, 2001; Zhao et al., 2010), and report lower levels of social wellbeing (e.g., feelings of loneliness) (Hegna & Rossow, 1997; Radkowsky & Siegel, 1997; Rivers & Noret, 2008; Udry & Chantala, 2002; Ueno, 2005; Williams, Connolly, Pepler, & Craig, 2005).

This large body of evidence regarding differences between LGB and heterosexual individuals in a wide range of aspects of mental and physical health that has accumulated using various study designs and populations brings forward the question of *why* LGB and heterosexual individuals differ in the extent to which they experience health problems.

1.2 Explanations for health differences between LGB and heterosexual individuals

Compared to the number of studies that is conducted to examine potential health differences between LGB and heterosexual individuals, the number of studies addressing explanations for these health differences is substantially smaller. Studies that do provide potential explanations for health differences between LGB

and heterosexual individuals can be divided into two broad categories.

The first type of studies examines differences in general risk factors possibly related to health problems. General risk factors are risk factors that are potentially associated with individuals' health, irrespective of their sexual orientation. Conceptually, these studies assume or hypothesize that general factors that influence the experience of health problems differ between LGB and heterosexual individuals, or that LGB and heterosexual individuals differ in the extent in which they experience the general risk factors, and both differences are assumed to mediate the influence of sexual orientation on health. This claim is examined by using between-group designs comparing LGB and heterosexual individuals. In this way, it is possible to explore whether LGB participants report more health problems because of their potentially higher levels of risk factors.

The second type of studies examines whether LGB-specific factors are related to poorer health. This type of study uses a within-group design to examine whether LGB-specific risk factors are associated with health problems among a sample of LGB individuals. In this approach, it is examined whether LGB individuals who report higher levels of LGB-specific risk factors report higher levels of health problems than LGB individuals reporting lower levels of LGB-specific risk factors.

1.2.1 General factors explaining health differences

Health is a multifaceted, highly complex phenomenon, which is influenced by a myriad of individual and interpersonal factors (Taylor, 1995). Individual factors include, for example, socio-demographic characteristics, stressors such as negative life events, and coping skills, while interpersonal factors include social network characteristics and social support. Health differences between LGB and heterosexual individuals might arise because of differences between LGB and heterosexual individuals in such individual and interpersonal factors that may mediate the association between sexual orientation and health. Any factor that is associated with health problems and differs between LGB and heterosexual individuals can potentially mediate the association between sexual orientation and health outcomes and explain health differences between LGB and heterosexual individuals. Unfortunately, there is no comprehensive, systematic theoretical

model that provides a framework for delineating these potential mediating factors. Nevertheless, several studies have examined the general individual and interpersonal factors in health differences between LGB and heterosexual individuals.

The potential mediating effect of individuals' socio-demographic characteristics has been addressed in several large-scale (population) studies. These studies examined whether differences in health between LGB and heterosexual participants remained significant when controlling for age, ethnicity, education, income, marital or cohabiting status, and urbanity (e.g., Cochran et al., 2003; Sandfort et al., 2006; Sandfort et al., 2001; Silenzio, Pena, Duberstein, Cerel, & Knox, 2007). The studies all reported remaining health differences between LGB and heterosexual individuals, for instance with respect to mental health (Cochran et al., 2003), physical health (Sandfort et al., 2006), and suicidality (Silenzio et al., 2007). This indicates that differences between LGB and heterosexual individuals in mental health, physical health, and suicidality can not be fully explained by differences in age, ethnicity, education, income, marital or cohabiting status, or urbanity between LGB and heterosexual individuals. A study by Balsam, Rothblum, and Beauchaine (2005) used a different design to examine the potential mediating influence of a range of background variables on the relationship between sexual orientation and psychological, physical, and sexual victimization. They recruited a sample of LGB individuals and their heterosexual siblings to control for within-family effects of the household participants grew up in when comparing victimization experiences of LGB and heterosexual participants. Included background variables were race, ethnicity, age cohort, parental socioeconomic status, and childhood maltreatment by parents. The results showed that these within-family influences accounted for a significant part of the variance in psychological, physical, and sexual abuse experienced during adulthood. However, sexual orientation still accounted for a significant proportion of variance in victimization experiences, over and above the proportion of variance already explained by the within-family background factors.

Taken together, the large-scale (population) studies (e.g., Cochran et al., 2003; Sandfort et al., 2006; Sandfort et al., 2001; Silenzio, Pena, Duberstein, Cerel, & Knox, 2007) and the siblings study of Balsam et al. (2005) show that the relation between

sexual orientation and health is not completely mediated by individual socio-demographic or other within-family background characteristics.

Studies focusing on other individual factors potentially explaining health differences between LGB and heterosexual individuals are relatively scarce. Sandfort et al. (2003) showed that the individual factors mastery and self-esteem partly explained differences between homosexual/bisexual and heterosexual men in several aspects of quality of life, including social functioning and mental health. As there were no differences between lesbian/bisexual and heterosexual women in reported quality of life, they could not be included in the analyses. More recently, Sandfort et al. (2009) hypothesized that LGB and heterosexual individuals might deal differently with problems or difficulties and examined whether differences in coping style might serve as an explanation for mental and physical health differences between LGB and heterosexual individuals. Their study showed that the association between sexual orientation and mental and physical health significantly decreased when including emotion-oriented coping style in the model explaining the mental health of men (Sandfort et al., 2009). However, while the effect of sexual orientation diminished, it nevertheless remained significant. There were no differences in coping style between lesbian/bisexual and heterosexual women, and Sandfort et al. (2009) could hence not explore whether coping style could account for mental health differences between various sexual orientation groups of women.

The only located study that focused on both individual and interpersonal factors possibly mediating the association between sexual orientation and mental health problems, was a study by Jorm et al. (2002). Jorm et al. (2002) examined whether mental health differences between lesbian/gay, bisexual, and heterosexual youth could be explained by individual factors such as years of education, financial problems, and number of stressors (adverse life events, childhood adverse life events), and interpersonal factors, in particular social support of family and friends. When controlling for these individual and interpersonal factors, the differences between sexual minority and heterosexual individuals in mental health remained significant.

To summarize: the studies reviewed in this paragraph show that general health individual and interpersonal risk factors such as socio-demographics, copings skills, mastery skills, common

stressors, and social support at best partly mediate the association between sexual orientation and health. When controlling for these general individual and interpersonal risk factors, the relation between sexual orientation and health sometimes diminishes, but nevertheless remains significant. This suggests that there are additional factors that contribute to health differences between LGB and heterosexual individuals.

1.2.2 LGB-specific factors: Minority stress

A second type of studies addressing explanations for health differences between LGB and heterosexual individuals examines the influence of LGB-specific risk factors. LGB-specific factors are factors that are only relevant within the LGB population, since heterosexual individuals do not encounter them. Within-group designs are used in these studies to explore whether LGB individuals who report higher levels of LGB-specific risk factors also report higher levels of health problems. Examples of LGB-specific factors are experiencing discrimination due to an LGB orientation or concealing an LGB identity.

As opposed to the noted lack of a comprehensive, systematic theoretical framework regarding the influence of general risk factors on health differences between LGB and heterosexual individuals, the approach examining LGB-specific risk factors does benefit from a theoretical model: Meyer's minority stress model (1995, 2003). Meyer developed his minority stress model from the more general transactional stress model of Lazarus and Folkman (1984). Lazarus and Folkman (1984) define stress as external events and conditions that take their toll on the individual and exceed their capacity to deal with these events and conditions ('stressors'). By exceeding the individual's capacity to deal with the events or conditions, stressors, such as traumatic events (e.g., the death of a loved one), important life changes (e.g., moving to a new home or getting married), and daily hassles (e.g., noisy neighbors or unfriendly co-workers) can contribute to health problems.

Stress can be caused by personal circumstances, but also by social factors. Meyer (1995; 2003) argues that minority stress is a specific form of social stress, that is stress derived from social circumstances or conditions. Minority stress is seen as stemming from the incongruence between a minority group and the majority in society. Members of a minority may experience incongruence in

terms of their needs, experiences, values, norms, or perceptions and the needs, values, norms, and expectations that are dominant in the majority of society. For example, minority members may have different needs with regard to laws protecting their safety (e.g., legislation regarding hate crimes). Minority members may also have different values, norms and expectations of what is perceived or regarded as normal, natural or acceptable than those that are dominant in the majority of society (e.g., in the media or in daily life interactions with majority members). This misfit can contribute to self-devaluation among minority members and the stigmatization of minority members by the majority (Meyer, 2003). The misfit between a minority and the majority in society can be stressful for minority members and thereby lead to minority stress. Examples of minority stress factors are traumatic events (e.g., negative or discriminatory reactions of majority members, violence specifically targeting minorities because of their minority status), self-devaluation (e.g., feeling different and less worthy than the majority), obsessive concerns with a minority status, or daily hassles (e.g., having to explain a minority position and accompanying needs to majority members frequently). As other stressors, minority stressors can take their toll on individual's health (Meyer, 1995; 2003).

From this general conceptualization of minority stress Meyer deducted LGB-specific stress factors that are assumed to be related to their mental health (1995, 2003). His first study, published in 1995, assessed three minority stress factors, but in later publications he elaborated the model and included five LGB-specific minority stress factors (e.g., Meyer, 2003, 2007). Four minority stress factors are risk factors ("stressors") and one is a protective factor. The four LGB stressors in Meyer's model are an additive source of stress for LGB individuals, over and above the stress that is experienced by LGB and heterosexual individuals alike, such as important life changes and daily hassles not related to a minority status. Due to these additional stressors, LGB individuals have to make additional adaptive efforts over and above the efforts that are required by LGB and heterosexual individuals alike. This additional effort might take its toll on the mental health of LGB individuals, and can thereby offer an explanation for their poorer mental health status. In this perspective, LGB individuals report more mental health problems than heterosexual individuals because they have to deal with

additional burdens of stress (i.e. LGB-specific stress), which take an additional toll on their mental health.

A first minority stressor, according to Meyer's model (1995; 2003), is experiencing prejudiced events like discrimination, negative reactions or violence specifically targeting LGB individuals. Encountering negative reactions or violence due to an LGB sexual orientation can have a negative impact on the health of LGB individuals because it can take away individual's sense of safety and provide individuals with a feeling of being vulnerable (Meyer, 2003). Herek, Gillis, and Cogan (1999) showed that experiencing crimes due to an LGB identity has a larger negative impact on LGB individuals' mental health than experiencing crimes in general. A second minority stressor is the expectation of rejection and negative reactions. LGB individuals might learn to anticipate negative reactions when interacting with majority group members, and therefore maintain vigilance in these interactions (Crocker, Major, & Steele, 1998). Anticipating the possibility that one might encounter negative experiences and being vigilant and 'on guard' all the time costs energy and this exertion of energy can take its toll on the mental health of LGB individuals (Meyer, 2003). A further minority stress factor in the model is concealing a sexual minority status. Although concealing an LGB status might protect an individual against encountering negative reactions and violence, not being open about important aspects of one's identity to others can be stressful (Meyer, 2003). It can lead to a constant, energy costing monitoring of one's own behavior (Hetrick & Martin, as noted by Meyer, 2003) and depriving an individual of possibilities to express emotions and share important aspects of one-self with others. Both factors (constant monitoring and suppressing emotional expression) can hold negative consequences for the mental health of LGB individuals (Pennebakker, 1995; Meyer, 2003). The last minority stressor pointed out by Meyer is internalized homonegativity. Internalized homonegativity is the negative attitude towards homo- and bisexuality that is held by LGB individuals themselves (Meyer & Dean, 1998). Since LGB individuals also grow up in a society in which they are a minority towards which negative attitudes exist, they may internalize this attitude and also hold a negative attitude towards homo- or bisexual aspects of themselves. This negative attitude towards oneself can have a negative impact on one's self-perception and mental health (Meyer, 2003). In addition to these four stressors,

Meyer also included one protective factor in his minority stress model. Specifically, he posits that having an LGB network can protect LGB individuals against the potential negative influence of their minority status on their mental health since this network offers possibilities to be with and interact with individuals who have more similar backgrounds, experiences, needs, values, and norms.

Studies in different health domains are now accumulating and show that the factors of the minority stress model are indeed related to the mental health of LGB individuals (e.g., Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Lewis, Derlega, Griffin, & Krowinski, 2003; Meyer, 1995; Rosario, Schrimshaw, Hunter, & Gwadz, 2002; Waldo, 1999). Moreover, minority stress not only seems to offer an explanation for mental health problems among LGB individuals, but also for other health problems such as their sexual health (e.g., Hatzenbuehler et al., 2008; Szymanski, Kashubeck-West, & Meyer, 2008). However, most studies do not include all minority stressors, but focus on a selection of minority stress factors. Various empirical studies have shown a relation between higher levels of experienced negative reactions due to an LGB identity and a range of health problems, including mental health (e.g., Abelson, Lambevski, Crawford, Bartos, & Kippax, 2006; Almeida et al., 2009; D'Augelli, Pilkington, & Herschberger, 2002; Friedman, Marshal, Stall, Cheong, & Wright, 2008; Herek et al., 1999; Mays & Cochran, 2001; Silverschanz, Cortina, Konik, & Magley, 2008; Swim, Johnston, & Pearson, 2009; Szymanski, 2005, 2006, 2009; Waldo, 1999), substance use (e.g., Birkett et al., 2009; Bontempo & D'Augelli, 2002; Rosario, Rotheram-Borus, & Reid, 1997), suicidality (e.g., Bontempo & D'Augelli, 2002; De Graaf et al., 2006; Paul et al., 2002;), and sexual health (e.g., Balsam & Szymanski, 2005; Kimmel & Mahalik, 2005; Otis, Rostosky, Riggle & Hamrin, 2006; Rosser et al, 1997; Zamboni & Crawford, 2007). Studies also show a relation between higher levels of expectations of negative reactions and lower levels of mental health (Cox et al., 2008; Hatzenbuehler et al., 2008; Lewis et al., 2003; Vanden Berghe, Dewaele, Cox, & Vincke, 2010).

Other studies examined the association between openness about an LGB identity and health among LGB individuals (Beals, Peplau, & Gable, 2009; Koh & Ross, 2006; Morris, Waldo, & Rothblum, 2001; Paul et al., 2002; Rosario et al., 1997); in

general, those who were open about their identity reported fewer health problems such as mental health problems (e.g., Beals et al., 2009; Morris et al., 2001), and suicidality (e.g., Paul et al., 2002). Internalized homonegativity has also been found to be related to health problems among LGB individuals, as shown in several empirical studies focusing on mental health (Balsam & Mohr, 2007; Cox et al., 2008; Cox, Vanden Berghe, Dewaele, & Vincke, 2009; Szymanski, 2005, 2006; Szymanski & Owens, 2008; Vanden Berghe et al., 2010; Williamson, 2000) and sexual health (Balsam & Szymanski, 2005; Dew & Chaney, 2005; Kelley & Robertson, 2008; Kimmel & Mahalik, 2005; Meyer & Dean, 1995; Mohr & Fassinger, 2006; Rosser et al, 1997; Rowen & Malcolm, 2002; Szymanski et al., 2008).

In addition to the relation between LGB-specific minority stressors and physical and mental health, the potential of LGB networks to act as a protective factor is shown by Sheets and Mohr (2009) and Ueno (2005). LGB individuals who had a social LGB network (e.g., LGB friends or acquaintances) reported fewer mental health problems.

To summarize, Meyer developed a conceptual framework to explain the increased health problems among LGB individuals. This minority stress model posits that LGB individuals have to deal with four additional, minority stressors: experiencing negative reactions, expecting negative reactions, concealing an LGB identity, and internalized homonegativity. These stressors can be experienced by LGB individuals over and above the stressors that can be experienced by LGB and heterosexual individuals alike. These additional stressors take an additional toll on LGB individuals' health, and therefore offer an additional explanation for the generally poorer health status of LGB individuals. Meyer also includes one protective factor in his model: having an LGB social network. The relation between the minority stress factors and health has now received support in multiple studies, providing Meyer's minority stress model with an empirical base to claim its status as a useful model for explaining the increased health problems among LGB individuals.

1.3 Current knowledge gaps

A large body of empirical evidence now shows that LGB individuals report higher levels of health problems, and general risk factors as well as LGB-specific minority stress factors might offer an

explanation for the higher levels of health problems reported by LGB individuals. However, despite the large body of research, several important gaps in our knowledge of the health differences between LGB and heterosexual individuals remain. Three major problems will be discussed below: the lack of differentiation between gender and sexual orientation subgroups in the LGB population, the lack of attention for older LGB people and LGB youth growing up in tolerant countries today, and the lack of combined between-and-within-groups study designs.

1.3.1 LGB individuals are not a uniform group

The LGB community consists of diverse groups of individuals. The acronym alone already shows that it consists of lesbian, gay, and bisexual women and men. Still, "LGB" is often operationalized in studies as "gay, male individuals" (as noted by Balsam & Mohr, 2007; Eliason, 1997; Herek, 2002; Rust, 2002). Other LGB studies often simply assume that what holds for gay men will also hold for lesbian women and bisexual individuals, or do not allow for separate analyses due to small sample sizes (as noted by Balsam & Mohr, 2007; Eliason, 1997; Herek, 2002; Rust, 2002). However, what, for example, is true for gay men might not be true for sexual minority women or bisexual individuals. Differences might exist between lesbian women, gay men and bisexual individuals with regard to health status, levels of minority stress, and the relation between minority stress and health.

1.3.1.1 Gender and sexual orientation differences in health status

Several studies show substantial differences in the health status of LGB individuals related to gender and sexual orientation. Most striking are findings related to health differences with regard to sexual orientation. Several recent studies show that bisexual individuals are at higher risk for health problems compared to heterosexual, and are also at higher risk than lesbian and gay individuals (Jorm et al., 2002; Marshal et al., 2008; Marshal et al., 2009; Robin et al., 2002). For example, Jorm et al. showed that, among a group of young and middle-aged adults, self-identified bisexual participants reported poorer health than the homosexual individuals with regard to anxiety and depression. Marshal et al. (2008), in their meta-analysis of the relation between substance use and sexual orientation among adolescents, found higher levels of substance use among bisexual than among lesbian/gay

participants. Robin et al. (2002) found no difference in substance use and suicidality between students reporting only same-sex or only opposite-sex partners, but reported higher levels of substance use and suicidality among students with both same- and opposite-sex partners.

Gender differences are also found with regard to the association between health status and sexual orientation. While sexual minority members of both genders are at risk for health problems, differences might exist with respect to the specific health problems. The meta-analysis by Marshal et al. (2008) of the association between substance use and sexual orientation among adolescents suggests that young sexual minority women are especially at risk. A meta-analysis by King et al. (2008) of mental disorders, suicidality, and self-harm among LGB individuals showed that lesbian and bisexual women are particularly at risk for substance disorders, while gay and bisexual men report especially high suicidality rates.

1.3.1.2 Gender and sexual orientation differences in minority stress

Differences in experiences of minority stress among LGB individuals also exist with regard to gender and sexual orientation. Since minority stress evolves from attitudes and perceptions of the general population, the experienced minority stress may differ between lesbian, gay, and bisexual individuals because different attitudes towards these groups exist. Societal attitudes tend to be more negative towards gay men and towards bisexual individuals than towards lesbian women (Herek, 2002; Kite & Whitley, 2003). In addition, specific bi-negative attitudes exist in society (such as "bisexual individuals are non-monogamous") and they are not only held by heterosexual individuals but also by lesbian/homosexual individuals (Eliason, 1997; Mohr & Rochlen, 1999; Rust, 1993, 2002). While attitudes towards lesbian and bisexual women tend to be less negative than towards gay and bisexual men, sexual minority women have to cope with so-called "double minority stress" (Meyer, 1995; 2003); lesbian and bisexual women need to deal with additional stress related to both the sexual orientation and gender minority aspects of their identity.

Several studies took gender and sexual orientation differences in levels of minority stress among LGB individuals into account and showed that men experienced higher levels of sexual

orientation-related victimization and discrimination than women (Almeida et al., 2009; D'Augelli et al., 2002; Herek, 2009; Herek et al., 1999; Meyer, Schwartz, & Frost, 2008), and lesbian/gay individuals reported more negative experiences than bisexual individuals (Herek, 2009; Herek et al., 1999). Regarding openness about an LGB identity, studies found no difference with regard to gender (Lewis et al., 2003; Ryan, Huebner, Diaz, & Sanchez, 2009; Savin-Williams & Ream, 2003), but did find less openness amongst bisexual individuals when compared to lesbian and gay individuals (Balsam & Mohr, 2007; D'Augelli et al., 2005; Franssens, 2010; Morris et al., 2001). Furthermore, lower levels of internalized homonegativity are found among lesbian women than among gay men (Balsam & Mohr, 2007; D'Augelli et al., 2002; Herek et al., 2009; Mohr & Fassinger, 2006; Rosario, Hunter, Maguen, Gwadz, & Smith, 2001; Rosario et al., 2002), and among lesbian/gay individuals compared to bisexual individuals (Cox et al., 2009; Franssens, 2010; Rosario et al., 2002). Also, the existence of an (extensive) protective LGB social network was found more often among gay men compared to lesbian women (Ryan et al., 2003), and among lesbian/gay individuals compared to bisexual participants (Balsam & Mohr, 2007; Cox et al., 2009; McKirnan, Stokes, Doll, & Burzette, 1995).

1.3.1.3 Gender and sexual orientation differences in the stress-health association

Few studies have examined whether the relation between minority stress and health differs between lesbian/gay, and bisexual women and men, as most studies (implicitly) assume that these associations are the same (Balsam & Mohr, 2007; Herek, 2002; Rust, 2002). Previous studies that do examine potential gender and sexual orientation differences in the association between the different minority stress factors and health provide no clear-cut answer to the question whether these relations are indeed similar in different subgroups of the LGB population.

Regarding potential gender differences in the relation between negative reactions due to an LGB sexual orientation and health status, some findings suggest that experiencing negative reactions is more strongly related to mental health problems among sexual minority men than among sexual minority women (Almeida et al., 2009; Bontempo & D'Augelli, 2002; De Graaf et al., 2006). Other studies have found no gender differences in the

relation between experiencing negative reactions regarding a sexual minority orientation and mental health (Rosario et al., 2002; Silverschanz et al., 2008). Regarding sexual orientation differences in the association between minority stress and mental health, Herek et al. (1999) showed that experiencing hate crimes due to a sexual minority status is related to psychological distress among lesbian/gay individuals, but this relation was not found among bisexual individuals.

No studies were found that examined differences in gender or sexual orientation of LGB individuals with regard to the relation between expectations of negative reactions and health.

Balsam and Mohr (2007) and Lewis et al. (2003) showed that the association between openness about their LGB identity and mental health did not differ for lesbian, gay, and bisexual women and men. However, Koh and Ross (2006) did find sexual orientation differences among lesbian and bisexual women in their study of suicide ideation. Among bisexual women, openness about their sexual orientation was associated with higher levels of suicide ideation, while among lesbian women, being not open about their sexual orientation was associated with higher levels of suicidal ideation.

The relation between internalized homonegativity and mental health problems appears to be similar for lesbian, gay, and bisexual women and men, with higher levels of internalized homonegativity being associated with higher levels of mental health problems found among lesbian, gay, and bisexual women and men (Balsam & Mohr, 2007; Lewis et al., 2003; Rosario et al., 2002).

Regarding the protective factor of the minority stress model, that is, having an LGB network, Balsam and Mohr (2007) found that the link between community connectedness and mental health is similar for lesbian, gay, and bisexual women and men.

1.3.2 Older LGB individuals and LGB youth growing up today in relatively tolerant countries

Just as the LGB population differs with respect to sexual orientation and gender, LGB individuals also differ with respect to their age and the times and places they grew up in. The two groups on each end of the age continuum, aging LGB adults and LGB youth, might each face different problems and challenges.

Older LGB adults are vastly underrepresented in LGB research. This probably reflects that elderly LGB individuals are considered not easy to reach. LGB samples are often recruited at LGB venues and events, including LGB bars, LGB parties, gay-prides, or through LGB websites. Older LGB might be less familiar with, or not be able to attend LGB events, thereby making it less easy to include them in research samples. But while being underrepresented in LGB research it is likely that older LGB individuals have to cope with higher levels of minority stress. Older LGB individuals carried the burden of growing up in times when homosexuality was still considered a mental disease, societal attitudes were blatantly hostile, and equal rights legislation was non-existing. It therefore seems likely that they experienced strong (expectations of) negative reactions regarding their sexual orientation, were not able to be open about their sexual orientation, internalized the negative attitudes that existed in the times they grew up in, and did not have many opportunities to connect with other LGB individuals. These potentially higher levels of minority stress might be associated with more health problems. It is therefore important to examine the health problems of older LGB individuals, and assess whether general and LGB-specific factors can offer explanations for their health problems.

On the other end of the age spectrum, minority stress is often examined for its potential of explaining health problems of LGB youth. A number of studies show that experiencing negative reactions due to an LGB identity is related to mental health problems and substance use among LGB youth (Almeida et al., 2009; Birkett et al., 2009; Bontempo & D'Augelli, 2002; D'Augelli et al., 2002). Rosario et al. (1997) found that, in addition to a relation between experiencing negative reactions due to an LGB identity and mental health problems and substance use, less openness about their LGB identity was associated with more mental health problems and substance use among LGB youth. Ueno (2005) focused on the potentially protective influence of LGB networks and showed that having LGB friends was indeed related to lower levels of mental health problems among LGB youth.

Despite empirical studies showing elevated levels of health problems among LGB youth (e.g., Corliss et al., 2008; Fergusson et al., 1999; Fergusson et al., 2005; Marshall et al., 2008; Robin et al., 2002) and LGB youth experiencing minority stress (Almeida et al., 2009; Birkett et al., 2009) Meyer noted that health

differences between LGB and heterosexual youth might diminish (Meyer et al., 2008). Meyer et al. (2008) point out that today's LGB youth might be less at risk for experiencing minority stress and related health problems when they grow up in more tolerant societies with less hostile attitudes of the general population and less inequality with respect to legislation (e.g., marriage for same-sex couples, spousal benefits for same-sex partners, adoption of children) (for an overview of societal attitudes and legislation regarding sexual orientation across different countries, see European Union Agency for Fundamental Rights, 2009a, 2009b; Keuzenkamp & Bos, 2007; Sandfort, McGaskey, & Bos 2008; Štulhofer & Rimac, 2009). Improved social acceptance and legal equality might lower the experienced levels of minority stress of LGB individuals, in particular of young people who did not experience previous social and legal marginalization. In addition, the association between minority stress factors and health outcomes may differ in more and less tolerant societies, and the potential impact of the minority stress factors on the heath of LGB individuals might be less strong among LGB individuals growing up in a relatively tolerant society. For example, in a relatively tolerant society it might be easier to report negative experiences due to an LGB identity to the police, or share (expected) negative reactions due to an LGB identity with straight friends or health care workers. This may reduce the association between experiencing negative reactions and health problems, since emotional disclosure to others is an effective method for reducing stress (Kennedy-Moore & Watson, 2001).

Studies conducted regarding the association between minority stress factors and health outcomes in tolerant societies with no or few legal inequalities, are scarce. Three recent studies carried out in countries where virtually no legal inequality exists and where societal attitudes are among the most positive worldwide (The Netherlands and Flemish Belgium) did show that minority stress factors are still associated with mental health problems of young LGB individuals (Cox et al., 2008, 2009; Franssens, 2010; Van Bergen & Van Lisdonk, 2010). For example, Van Bergen and Van Lisdonk (2010) showed in their study on depression and suicide attempts among young Dutch LGB individuals that experiencing negative reactions on their LGB identity was an important risk factor for higher levels of depression

and suicide attempts. It remains to be examined whether this holds true for other health areas.

1.3.1 Between-and-within-groups study designs

As is often the case in social research, the answer to the question "*why*" is not a simple one. Health is influenced by a myriad of individual and interpersonal factors, and it is not likely that mental health, sexual health, substance use, and differences in social wellbeing between LGB and heterosexual individuals can be fully explained by a small set of factors, either general factors or LGB-specific factors. Studies addressing explanations of health differences between LGB and heterosexual individuals from a general factors perspective have shown that such individual and interpersonal general risk factors, including socio-demographic characteristics, stressors, coping skills, and social support, can partly explain the elevated health problems among LGB individuals compared to heterosexual individuals. Nevertheless, while studies using this between-group approach show that including general factors in empirical models explaining the health of LGB and heterosexual individuals diminishes the effect of sexual orientation, sexual orientation remains a significant factor in explanatory statistical models. Studies that are informed by the minority stress model also show that this framework offers evidence-based explanations for health problems encountered by LGB individuals. However, within-group minority stress studies mostly focus on LGB-specific factors only and do not explore to which extent minority stress factors actually act as additional stressors and explain variance in health outcomes over and above general risk factors.

In view of the limitations of both these types of studies, it is important to develop an approach to the study of sexual orientation differences in health outcomes that combines assessment of general risk factors in between-group study designs that include LGB as well as heterosexual participants, with an LGB-specific factors approach that makes use of within-group designs and samples of LGB individuals only. Such a combined between-and-within-groups design of research into the associations between general risk factors, LGB-specific risk factors, and health can be conducted by using a 'stepwise' approach. Between-and-within-groups studies could exist of three different steps. First, between-groups analyses comparing LGB's and heterosexual

individuals could examine potential sexual orientation differences in health. In the next step, the study should examine whether health differences continue to exist when including general risk factors to explain health differences in the model. In the third step, the LGB subsample could be selected and analyses could examine whether minority stressors add significantly to the explanation of differences in health over and above the general risk factors identified in the second step. Using this three-step methodology, a study could examine whether health differences between LGB and heterosexual individuals exist, to what extent these differences in health can be attributed to general risk factors, and whether LGB-specific factors add to the explanation of LGB individuals' health over and above general risk factors. Using this three-step approach would promote understanding of the relative importance of general and LGB-specific risk factors, and enable a more robust testing of Meyer's minority stress model proposition that minority stress is an additive form of stress over and above general risk (stress) factors that are encountered by LGB and heterosexual individuals alike.

Although also called for by Meyer (2003), research combining between-and-within-groups approaches to understand differences in health outcomes between LGB and heterosexual individuals has not been located. This may be because such a mixed-design requires a sample that is not only large enough to allow comparative analyses between LGB and heterosexual participants but also includes enough LGB participants to conduct specific analysis in the LGB subsample. Also, such a study would need to include measures of both general factors and LGB-specific factors potentially related to health outcomes.

1.4 Current dissertation

The research presented in the current dissertation aims to address the lack of differentiation between gender and sexual orientation subgroups in the LGB population, the lack of attention for older LGB individuals and LGB youth growing up in relatively tolerant societies today, and the lack of combined between-and-within-groups study designs. Addressing these key knowledge gaps in the current evidence base has important theoretical implications for the minority stress model. Firstly, the presented studies address the validity of the model in different groups of LGB individuals with respect to gender, sexual orientation, age, and the country LGB

individuals live in. When minority stress factors are associated with health problems in the same way among lesbian/gay and bisexual individuals, among women and men, among older LGB individuals and LGB youth growing up in relatively tolerant countries today, this would provide important support for the validity of the minority stress model. Furthermore, the use of a between-and-within-groups study design can examine one of the main premises of the minority stress model, that minority stress is an additive type of stress that is associated with health problems over and above general risk factors for health experienced by LGB and heterosexual individuals alike.

Moreover, addressing these knowledge gaps is not only relevant from a theoretical point of view. Gaining more insight into the associations between general stress factors, minority stress factors, and various health problems, including regarding mental health, substance use, physical health, and sexual health, can provide important knowledge to guide policies and programs to improve the health of LGB individuals. If it is found that specific general or minority stress factors are more or less relevant in explaining the health problems of specific subgroups within the LGB community (e.g., lesbians, gays, bisexuals, women, men, youth, or elderly), this would call for a specific approach of subgroups within the LGB community and targeting specific risk factors associated with specific health problems. Interventions would then need to be tailored to those risk factors that are most important for an LGB subgroup, which might promote their efficacy. In contrast, if similar factors are associated with health problems in different LGB subgroups, programs and policies that target these factors would have potential beneficial implications for health outcomes of the LGB community as a whole.

In the chapters that follow five empirical studies are presented that each address specific research questions. The specific research questions of the individual studies reflect three overarching research questions that this thesis aims to answer and that address gaps in current knowledge. These broader research questions are as follows:

1. Do the associations between minority stress factors and mental health, sexual health, substance use, and social wellbeing differ between sexual minority women and men and between lesbian/gay and bisexual individuals?
2. Does the minority stress model provide a useful conceptual framework to explain health outcomes of ageing LGB individuals and of today's LGB youth growing up in a relatively tolerant society?
3. To what extent does a between-and-within-groups study design offer a useful approach to examine the factors that are potentially related to differences in the health outcomes of LGB and heterosexual individuals?

Chapter two reports data from a population study and examines whether minority stress factors, in particular encountering negative reactions from others related to their LGB identity, openness about their LGB identity, and internalized homonegativity, are in similar ways associated with mental health problems of adult Dutch lesbian and bisexual women and gay and bisexual men. This chapter addresses the first research question this dissertation aims to answer by assessing potential gender and sexual orientation differences in the association between minority stress and mental health.

Chapter three examines loneliness among Dutch elderly LGB individuals and assesses whether potential differences in between LGB and heterosexual individuals can be explained by differences in general factors related to loneliness (e.g., social embeddedness, living conditions, or self-esteem). Chapter four is equally concerned with loneliness among LGB older individuals and examines whether minority stressors, in particular (expectations of) negative reactions regarding their LGB identity, openness about their LGB identity, internalized homonegativity, and having and LGB social network, add to the variance already explained by the general risk factors for loneliness reported in chapter three. Together, chapters three and four address the second and third research questions of this dissertation regarding the usefulness of the minority stress model in explaining health outcomes of older LGB individuals and the usefulness of a between-and-within-groups study design when examining factors that are potentially related to the differences in health problems between heterosexual and LGB individuals.

Chapter five focuses on the health of Dutch LGB youth growing up in today's tolerant society and examines whether these young LGB individuals experience minority stress, as reflected in negative reactions due to their LGB identity, openness about their LGB identity, internalized homonegativity, and LGB community involvement, and whether the extent of experienced minority stress is related to their substance use, sexual health, and social wellbeing, taking into account potential gender and sexual orientation differences. This chapter addresses the first research question (regarding gender and sexual orientation differences) as well as the second research question (regarding the usefulness of the minority stress model in explaining the health of LGB youth growing up in a relatively tolerant society).

Chapter six addressed the sexual health of Dutch LGB and heterosexual adults. It explores whether potential differences in experienced sexual satisfaction, sexual coercion, sexual dysfunctions, and sexual health care needs can be explained by differences in general risk factors (socio-demographic and sexual behavior characteristics), and whether minority stress factors (i.e. negative social reactions related to their LGB identity, openness about their LGB identity, and internalized homonegativity) add to the variance explained by general risk factors. The analyses take potential gender differences in account. Chapter six addresses the first and third research question of the current dissertation (i.e. the research questions regarding potential gender or sexual orientation differences and the research question regarding the usefulness of a between-and-within-groups study design).

CHAPTER 2

MINORITY STRESS AND MENTAL HEALTH: EXAMINATION OF DIFFERENCES BETWEEN SEX AND SEXUAL ORIENTATION

This chapter is based on the following publication:
Kuyper, L., & Fokkema, T. (2011). Minority stress and mental health: Examination of differences between gender and sexual orientation. *Journal of Counseling Psychology.* Advance online publication.

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The data used in this study were derived from a study by Bakker and Vanwesenbeeck (2006) which was funded by a grant of the Dutch Ministry of Health, Welfare, and Sports.

Abstract. Minority stress is often cited as an explanation for greater mental health problems among lesbian, gay, and bisexual (LGB) individuals than heterosexual individuals. However, studies focusing on sex or sexual orientation differences in level of minority stress and its impact on mental health are scarce, even more so outside the United States. Performing secondary analyses on the data of a Dutch population study on sexual health, the current study examines the robustness of the minority stress model by explaining mental health problems among men and women with mostly or only same-sex sexual attraction, and men and women who are equally attracted to same-sex and opposite-sex partners in the "gay-friendly" Netherlands (N = 389; 118 gay men, 40 bisexual men, 184 lesbian women, and 54 bisexual women). Results showed that minority stress is also related to mental health of Dutch LGBs. Participants with a higher level of internalized homonegativity and those who more often encountered negative reactions from other people on their same-sex sexual attraction reported more mental health problems. Such negative reactions from others, however, had a stronger link with mental health among lesbian/gay than among bisexual participants. Openness about one's sexual orientation was related to better mental health among sexual minority women, but not among their male counterparts. Suggestions for future research, implications for counseling, and other societal interventions are discussed.

2.1 Introduction

A growing body of research is focusing on a broad spectrum of mental health differences between LGB (lesbian, gay, and bisexual) and heterosexual individuals. Most studies report poorer mental health status among LGBs (Cochran, Sullivan, & Mays, 2003; De Graaf, Sandfort, & Ten Have, 2006; Gilman et al., 2001; Herrell et al., 1999; Koh & Ross, 2006; Matthews, Hughes, Johnson, Razzano, & Cassidy, 2002; Meyer, 2003; Russell & Joyner, 2001; Sandfort, Bakker, Schellevis, & Vanwesenbeeck, 2006; Sandfort, de Graaf, & Bijl, 2003). These differences between LGB and heterosexual individuals were found among a wide range of study designs and populations, among both men and women, and among adolescents as well as adults. Recent studies taking sexual orientation differences into account show variation within the LGB population, with bisexual individuals being at the highest risk for mental health problems (Corliss, Rosario, Wypij, Fisher, & Austin, 2008; Jorm, Korten, Rodgers, Jacomb, & Christensen, 2002; Marshal et al., 2008; Marshal, Friedman, Stall, & Thompson, 2009; Paul et al., 2002; Robin et al., 2002).

With an increasing number of studies showing mental health differences, it becomes necessary to go beyond the mere description and documentation of differences, and to search for risk and resilience factors that contribute to the adversarial mental health status of LGBs. In the past, differences in mental health between heterosexuals and LGBs were simply attributed to the idea that homosexuality is a disorder itself. With the deletion of homosexuality from the list of psychiatric disorders, however, the discourse has changed. Nowadays, social stigma on homosexuality is seen as the most important explanation (Cochran et al., 2003; Cox, Vanden Berghe, Dewaele, & Vincke, 2008; De Graaf et al., 2006; Gilman et al., 2001; Gruskin, Greenwood, Matevia, Pollack, & Bye, 2007; Herek & Garnets, 2007; Meyer, 1995, 2003; Waldo, 1999; Waldo, Hesson-McInnis, & D'Augelli, 1998).

A theoretical framework developed to explain how social stigma on homosexuality has a deteriorating effect on LGBs' mental health is Meyers' minority stress model (Meyer 1995, 2003, 2007). He claims that LGBs are at risk for mental health problems because of a unique, chronic stress resulting from their minority status. Meyer distinguishes four minority stress processes: experiences of prejudice events, expectations of rejection or discrimination, hiding and concealing of one's sexual orientation,

and internalized homonegativity (i.e., the internalization of negative societal attitudes towards LGBs). Social support and networks are incorporated into the minority stress framework as protective factors.

A host of studies indeed show links between these minority stress factors and mental health. There is ongoing empirical evidence for a relationship between experiencing hate crime victimization, discrimination, prejudices or daily heterosexist hassles, and higher levels of psychological distress or feelings of suicidality (Abelson, Lambevski, Crawford, Bartos, & Kippax, 2006; Bontempo & D'Augelli, 2002; Cox et al., 2008; De Graaf et al., 2006; Friedman, Marshal, Stall, Cheong, & Wright, 2008; Herek, Gillis, & Cogan, 1999; Mays & Cochran, 2001; Meyer, 1995; Paul et al., 2002; Sandfort et al., 2003; Silverschanz, Cortina, Konik, & Magley, 2008; Swim, Johnston, & Pearson, 2009; Szymanski, 2005, 2006, 2009; Waldo, 1999). The same holds true for expectations of victimization and discrimination (Cox et al., 2008; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Lewis, Derlega, Griffin, & Krowinski, 2003; Meyer, 1995; Vanden Berghe, Dewaele, Cox, & Vincke, 2010). LGBs with higher levels of internalized homonegativity also report more mental health problems (Balsam & Mohr, 2007; Cox et al., 2008; Cox, Vanden Berghe, Dewaele, & Vincke, 2009; Meyer, 1995; Szymanski, 2005, 2006; Szymanski, Kashubeck-West, & Meyer, 2008; Szymanski & Owens, 2008; Vanden Berghe et al., 2010; Williamson, 2000). Furthermore, several studies show that coming "out" is associated with mental health among sexual minority men and women (Beals, Peplau, & Gable, 2009; Koh & Ross, 2006; Morris, Waldo, & Rothblum, 2001; Paul et al., 2002). In general, those who came out had fewer mental health problems. The protective factor of social LGB networks is shown by Sheets and Mohr (2009) and Ueno (2005).

Unfortunately, LGB studies often simply assume that the impact of risk or resilience factors on wellbeing will be the same for the L, the G, and the B (as noted by Balsam & Mohr, 2007; Eliason, 1997; Herek, 2002; Rust, 2002). Few studies have focused on sex and/or sexual orientation differences. However, especially due to recent studies that have demonstrated an increased risk of mental problems among bisexual individuals, it is important to investigate whether the minority stress model provides an explanation for the disadvantaged health status of all

LGB subgroups. In addition, most minority stress studies have been conducted in North America. Studies on the usefulness of the minority stress model in more tolerant societies are negligible. The current study sought to examine the robustness of the minority stress model by examining sex and sexual orientation differences in the levels of minority stress and the relationship with mental health in a "gay-friendly" environment.

2.1.1 Sex differences

There are several reasons to expect sex differences when using the minority stress model as an explanation for LGBs' mental health. First of all, the *levels* of minority stress factors might differ between both sexes. On the one hand, a meta-analysis of Kite and Whitley (2003) shows that in the United States and Canada societal attitudes towards same-sex sexuality are less negative towards women than towards men. Especially heterosexual men report negative attitudes towards gay men. Less negative societal attitudes might lead to less discrimination, lower expectancies of discrimination, lower levels of internalized homonegativity, and more openness about one's sexual minority identity, which in turn may result in lower levels of mental health problems among women. On the other hand, as Meyer (1995; 2003) points out, women might experience more minority stress due to their "double minority" status. Lesbian and bisexual women may be subjected to minority stress related to both the sexual minority and the sex aspect of their identity.

Several empirical studies have indeed found sex differences in levels of minority stress factors. A number of studies show higher levels of discrimination and victimization among sexual minority men than among sexual minority women (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; D'Augelli, Pilkington, & Herschberger, 2002; Herek, 2009; Herek et al., 1999; Meyer, Schwartz, & Frost, 2008). Studies on sex differences in expectancies of negative reactions yield contradicting results. While D'Augelli et al. (2002) showed that young sexual minority men are more afraid of being attacked than their female counterparts, Meyer et al. (2008) found in their sample of adult sexual minorities that women reported higher levels of stigma expectancies. Other studies show women having lower levels of internalized homonegativity than men (Balsam & Mohr, 2007; D'Augelli et al., 2002; Herek et al., 2009; Mohr & Fassinger, 2006;

Rosario, Hunter, Maguen, Gwadz, & Smith, 2001; Rosario, Schrimshaw, Hunter, & Gwadz, 2002). Regarding openness to family or parents, previous studies show no sex differences (Lewis et al., 2003; Ryan, Huebner, Diaz, & Sanchez, 2009; Savin-Williams & Ream, 2003). Ryan et al. (2003) looked at the sex differences in LGB social networks. Their results showed that sexual minority women participate less in LGB groups or organizations than their male counterparts.

Sex differences may not only arise in the *levels* of experienced minority stress (e.g., women having lower levels of internalized homonegativity), but also in the *impact* of minority stress factors on mental health (e.g., the strength of internalized homonegativity on mental health not being the same for women and men). Individuals reactions to stress are not uniform or universal but mediated by individual characteristics (Schneiderman, Ironson, & Siegel, 2005). The impact of minority stress on mental health might therefore not be the same for women and men. However, empirical studies providing insight into sex differences in the impact of minority stress factors on mental health are scarce and yield inconsistent results. Three studies found that discrimination and victimization had a stronger relationship with the mental health of sexual minority men than with that of sexual minority women (Almeida et al., 2009; Bontempo & D'Augelli, 2002; De Graaf et al., 2006). On the other hand, Rosario et al. (2002) and Silverschanz et al. (2008) found no sex differences in the relationship between experiencing negative reactions because of one's sexual orientation and wellbeing. The relationship between higher levels of internalized homonegativity and more mental health problems appeared to be the same for sexual minority women and men (Balsam & Mohr, 2007; Lewis et al., 2003; Rosario et al., 2002). Balsam and Mohr (2007) and Lewis et al. (2003) showed that the link between outness and psychosocial health does not differ for men and women. In addition, the study of Balsam and Mohr showed that the link between community connectedness and psychosocial health is the same for women and men.

2.1.2 Sexual orientation differences

Differences in levels of minority stress might exist not only between men and women, but also between lesbian/gay and bisexual individuals. Attitudes of the general population are more

negative towards bisexual people than towards lesbian/gay individuals. In the study of Herek (2002), for example, women indicated having a more favorable ("warm") attitude towards lesbian/gay people than towards bisexual people. In addition to general negative attitudes towards LGBs, bisexual individuals face a set of specific bi-negative attitudes (e.g., bisexuality is not a stable legitimate sexual identity, bisexuals are often non-monogamous, bisexuals are confused about their sexuality, or bisexual people are lesbian/gay people who do not dare to come out; Eliason, 1997; Mohr & Rochlen, 1999; Rust, 1993, 2002). Next to these two types of negativity, bisexual individuals have to cope with negative attitudes from two different sources: they not only have to deal with negative attitudes from heterosexual individuals, lesbian/gay individuals hold negative bi-specific attitudes as well (Eliason, 1997; Mohr & Rochlen, 1999; Rust, 1993, 2002). These different types and sources of negative attitudes might lead to higher levels of minority stress among bisexual people. They might experience discrimination and negative reactions more often, have higher expectancies about discrimination and negative reactions, and experience higher levels of internalized homonegativity and lower levels of openness about their sexual identity. Furthermore, less community support (e.g., cultural or social networks like bars, sports clubs, support groups) is available for bisexual individuals than for lesbian and gay individuals (as noted by Rust, 1993, 2002).

Several studies show indeed differences in the levels of minority stress between lesbian/gay and bisexual individuals. Bisexual individuals report higher levels of internalized homonegativity (Cox et al., 2009; Franssens, 2010; Rosario et al., 2002) and were open about their sexual orientation less often than lesbian/gay individuals (Balsam & Mohr, 2007; D'Augelli, Grossman, & Starks, 2005; Franssens, 2010; Morris et al., 2001). Moreover, they had lower levels of LGB community involvement than lesbian/gay people (Balsam & Mohr, 2007; Cox et al., 2009; McKirnan, Stokes, Doll, & Burzette, 1995). However, contrary to expectation, higher levels of discrimination and victimization were found among lesbian and gay individuals than among bisexual individuals (Herek, 2009; Herek et al., 1999).

In line with reasoning about sex differences, besides possible differences in the levels of minority stress the impact of minority stress factors on mental health may also vary between

bisexual and lesbian/gay individuals due to the potential influence of individual characteristics (Schneiderman et al., 2005). A few studies have looked at the possible differences in the impact of minority stress on mental health, yielding contradictory results. Herek et al. (1999) showed that hate crime experiences were related to psychological distress among lesbian and gay individuals, but not among bisexual people. Koh and Ross (2006) also found different results for lesbian and bisexual women in their study on health behavior: bisexual women who were out of the closet and lesbian women who were not, showed higher levels of suicidal ideation. In addition, being out as a bisexual increased the chances of eating disorders, while outness did not influence this behavior among lesbian women. On the other hand, Balsam and Mohr (2007) found that the link between psychosocial health and internalized homonegativity, outness, and community connectedness did not differ for lesbian/gay or bisexual women or men.

2.1.3 Social context

Since minority stress evolves from the stigmatizing values of the dominant culture, levels of minority stress might be lower in countries with more civil rights equity (e.g., The Netherlands and Belgium; for a review of the legal status of LGBs on all matters please refer to the report of the European Union Agency for Fundamental Rights [FRA], 2009a) and countries where societal attitudes towards homosexuality are relatively positive (e.g., The Netherlands, Belgium, and Sweden; see FRA, 2009b; Keuzenkamp & Bos, 2007; Štulhofer & Rimac, 2009). In such relatively tolerant countries less negative reactions might occur, less negativity might be internalized, openness might be easier, and LGB support and communities might be more available and visible. A recent overview of mental health among sexual minorities in the US and Europe shows however that the prevalence of mental health problems among gay men in The Netherlands does not differ from that in the USA or the UK (Lewis, 2009). This suggests that Dutch sexual minorities (who live in a relatively tolerant country with civil rights equity) might also have to deal with minority stressors. Unfortunately, no cross-cultural research has examined the levels of minority stress among relatively more and less tolerant countries.

Not only might the levels of minority stress differ, but the impact of minority stress on mental health might also be different in more tolerant countries. To some extent, the potential negative impact of victimization, expectations of victimization, and internalized homonegativity might be counteracted by the tolerant social climate. For example, in a relatively tolerant country it should be easier to report hate crimes to the police or to share negative experiences or feelings with straight friends or professional health care workers. This may buffer or reduce the negative effect of minority stress, since emotional disclosure is an effective method for reducing distress (Kennedy-Moore & Watson, 2001).

Most minority stress studies have been conducted in the United States, but there are recent studies on relatively tolerant societies by Cox et al. (2008, 2009), Vanden Berghe et al. (2010), all three using data of the same study among LGBs living in Flemish Belgium, and Franssens (2010) in the Netherlands. These studies suggest that the minority stress framework might also be relevant for explaining mental health problems among LGBs living in relatively tolerant societies. The Belgium studies focused on the influence of two minority stress factors: internalized homonegativity and stigma consciousness (expectations of discrimination). They found a positive relationship between depressive symptoms and higher levels of internalized homonegativity and stigma consciousness. In the study of Franssens (2010) among young Dutch MSM (men who have sex with men), experiencing discrimination was related to feelings of depression, while effects of disclosure of one's sexual minority identity were not. Internalized homonegativity was only related to depressive feelings for those gay and bisexual men who reported low levels of LGB community connectedness.

2.1.4 Current study

To summarize: while the minority stress model of Meyer (1995, 2003, 2007) is a promising, often-cited approach to explain the higher levels of mental health problems among LGBs, evidence for its usefulness among different LGB subgroups (women and men, bisexuals and lesbians/gays) and social situations (countries outside the US) is limited. This study explores the robustness of the minority stress model by examining its feasibility to explain mental health problems among LGBs in the gay-friendly

Netherlands. The research questions are: (a) Do lesbian/gay and bisexual women and men in a relatively tolerant society differ in their levels of minority stress and mental health problems?; (b) Are minority stress factors related to mental health problems of LGBs in a relatively tolerant climate?; and, if so, (c) Are there any differences in the relationship between minority stress and mental health problems between women and men, and between bisexual and lesbian/gay individuals?

2.2 Method

2.2.1 Sample and procedures

Data stem from the population-based study on sexual health in the Netherlands conducted by Bakker and Vanwesenbeeck (2006). First, the survey recruited participants from a large Internet panel for online surveys. A three-step recruitment procedure was used to obtain a sample representative of the Dutch population between ages 19-70 in terms of sex, age, educational level, and degree of urbanization. In the first step, 7,210 panel members aged 19 to 70 were randomly selected and invited by e-mail to fill out an online questionnaire on sexual health. The anonymity of their answers was guaranteed. After 2,000 questionnaires had been completed, the representativeness of the sample was examined for sex, age, educational level, and ethnic background. To improve the representativeness of the sample, those groups who were underrepresented in this first round (e.g., ethnic minorities, elderly respondents) were approached selectively in the second step of data collection. This also led to a lower response rate though, since the underrepresented groups were harder to reach and therefore more people had to be invited in order to include a sufficient number of participants from these groups. More details about the recruitment procedure can be found in Kuyper and Vanwesenbeeck (2009) and Vanwesenbeeck, Bakker, and Gesell (2010). In total, about 14,900 people from both steps were invited to fill out the questionnaire; 4,174 of them actually did, resulting in an overall response rate of 28%[1].

[1] There is no doubt that this rate is low, hence results should be interpreted cautiously. It is positive to note that response rates in the Netherlands tend to be lower than in other Western countries and seem to be declining over time (De Leeuw & De Heer, 2001; Stoop 2005). Moreover, the Dutch appear to be particularly less willing to cooperate in surveys on privacy issues.

In addition to an overall representative sample of the Dutch population, extra care was given to the recruitment of sexual minority respondents. Announcements were placed on LGB websites (e.g., the website of a lesbian magazine and an LGB youth magazine). This increased the size of the LGB sample by 159 participants. For this final step no response rate could be calculated since it is unknown how many people saw the announcement on the website.

The present secondary analyses are restricted to the LGB participants (*N* = 396). Sexual orientation was based on an empirically assigned sexual minority group. Individuals were selected on the basis of sexual attraction ("Do you feel sexually attracted to men, to women or to both?" 1 = only to men; 2 = mainly to men; 3 = equally to men and women; 4 = mainly to women; 5 = only to women; 6 = neither to men nor women) rather than on their self-identification as lesbian, gay, or bisexual, or on their sexual behavior. The subsample consisted of 118 gay men (i.e., men sexually attracted only or mainly to men), 40 bisexual men (i.e., men sexually attracted to men and women equally), 184 lesbian women (i.e., women sexually attracted only or mainly to women), and 54 bisexual women (i.e., women sexually attracted to men and women equally). It is not surprising that more women than men participated, as the announcement was also placed on a website specifically targeting women.

Mean age of the participants was 35.5 years (*SD* = 11.8). Nearly four out of 10 (39.4%) had a university or college degree, while 23.0% had the lowest educational level (i.e., primary school or vocational school). The vast majority (94.8%) was of Dutch or other Western origin (i.e., European, American, or Australian), and most of the participants (74.9%) reported no religious affiliation. Around one-fifth (19.5%) lived in towns or in the countryside, 43.2% lived in small-to-large cities, and 37.3% lived in one of the four largest cities in the Netherlands (Amsterdam, Rotterdam, The Hague or Utrecht). Three out of 10 (30.1%) reported no financial problems, while 14.1% reported serious trouble making ends meet.

2.2.2 Measures

Mental health. Mental health was measured by the Mental Health Indicator (MH15), which is taken from the SF-36 Health Survey questionnaire of Ware and Konsinki (2001). It measures the level

of frequently encountered health feelings during the preceding four weeks on a 6-point scale (1 = *all the time*; 6 = *never*). The six items were "very nervous", "down and sad", "a happy person", "very sad and nothing could cheer me up", "calm", and "very energetic". The negative items were scored in reverse and mean scores were calculated. A higher score is indicative of more mental health problems (Cronbach's alpha = .85).

Negative reactions. Participants were asked whether they had ever received any negative reaction on their same-sex sexual attraction. Response options ranged from 1 (*never*) to 5 (*very often*).

Internalized homonegativity. The scale measuring internalized homonegativity consisted of two items, to which participants responded on a 5-point scale (1 = *totally agree*, 5 = *totally disagree*): "If I could choose, I'd rather be (totally) straight" and "For me, my homosexual or bisexual feelings are no problem at all". The second item was scored in reverse, hence, a higher score indicates more internalized homonegativity (i.e., less acceptance of one's own same-sex sexual attraction). Cronbach's alpha is .78.

Openness. The variable of openness measured whether various social connections knew about participants' same-sex sexual attraction. Questions were posed with regard to their mother, father, other family members, general practitioner, colleagues or classmates, and heterosexual friends (1 = *yes*; 2 = *no*; 3 = *don't know*; 4 = *not applicable*). A total score was calculated by adding the number of social connections who knew about participants' same-sex sexual attraction, divided by the total number of social connections that were applicable to him/her (Cronbach's alpha = .86).

The last three scales (negative reactions, internalized homophobia, and openness) were developed by Bakker and Vanwesenbeeck (2006).

2.3 Results

2.3.1 Sex and sexual orientation differences in levels of minority stress

The 2 X 2 MANOVA testing for minority stress and mental health differences between lesbian, gay, and bisexual individuals yielded a significant direct effect with respect to sex, Wilks' lambda = .96, F (4, 381) = 4.48, p < 01, partial η^2 = .05, and empirically assigned sexual orientation, Wilks' lambda = .68, F (4, 381) =

44.62, $p < 001$, partial $\eta^2 = .32$. The effect for the interaction between sex and sexual orientation, Wilks' lambda = .99, F (4, 381) = 1.04, $p = .39$, partial $\eta^2 = .01$, was not significant. We also examined whether the recruitment method (general population sample or LGB-specific recruitment) was related to the levels of minority stress and mental health. This effect was not significant, Wilks' lambda = .99, F (4, 381) = 1.18, $p = .32$, partial $\eta^2 = .01$.

Table 2.1 presents the results of the follow-up ANOVA of the significant MANOVA models for sex and sexual orientation. Regarding sex, one minority stress factor differed between men and women: women had a significantly lower score on the scale measuring internalized homonegativity, indicating a more favorable attitude towards their own same-sex sexual attraction. With respect to empirically assigned sexual orientation, differences were found for all minority stress factors. Lesbian/gay individuals encountered negative reactions on their same-sex sexual attraction more often than bisexual individuals. The latter, however, had higher levels of internalized homonegativity, i.e., they had a less positive attitude towards their own same-sex sexual attraction and were less open about it. Interestingly, although the groups differed on minority stress there were no significant sex or sexual orientation differences found with regard to mental health.

Table 2.1 Sex and Sexual Orientation Differences in Minority Stress and Mental Health

	Sex					Sexual orientation				
	Men (n = 158)		Women (n = 238)			Bisexual (n = 94)		L/G (n = 302)		
Characteristics	*M*	*SD*	*M*	*SD*	*F*	*M*	*SD*	*M*	*SD*	*F*
Minority stress										
Negative reactions	1.88	.08	1.73	.06	2.40	1.58	.09	2.03	.05	21.03***
Internalized homonegativity	3.18	.10	2.85	.07	7.12**	3.27	.11	2.76	.06	18.10***
Openness	.55	.03	.60	.02	1.49	.33	.03	.82	.02	175.15***
Mental health	2.41	.10	2.62	.07	3.21	2.62	.11	2.41	.06	3.29

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

2.3.2 Relationship between minority stress and mental health

Table 2.2 displays the results of the multivariate regression analysis regarding the relationship between minority stress and mental health, regardless of sex and sexual orientation.

Table 2.2 Relationship between Minority Stress and Mental Health (*N* = 396)

			Mental Health	
Measure	*B*	*SE*	ß	*p*
Negative reactions	.16	.06	.14	.01
Internalized homonegativity	.19	.05	.20	.00
Openness	-.10	.14	-.04	.48
Total R^2	.06			

The model was significant, F (3, 388) = 7.83, $p < .001$, $R^2 = .06$. Two minority stress factors made a unique contribution to the model: negative reactions and internalized homonegativity. LGBs who encounter more negative reactions from other people on their same-sex sexual attraction reported more mental health problems, as did participants who had a negative attitude towards their own same-sex sexual attraction. The degree of openness about their sexual orientation, on the other hand, did not correlate significantly with mental health.

2.3.3 Sex and sexual orientation differences in the relationship between minority stress and mental health

A hierarchical regression analysis was performed in order to examine possible sex and empirically assigned sexual orientation differences in the relationship between minority stress and mental health. The first step contained participants' sex and sexual orientation. In the second step the interaction between these two variables was added. The third step introduced the minority stressors. In the fourth and final step, the two-way and three-way interactions between minority stress, sex, and sexual orientation were added to the model. Table 2.3 displays the results of the analysis. The addition of the interactions between sex, sexual orientation, and minority stress did not improve the model (a non-significant R-square change from step 3, model without these interactions, to the fourth step), but the (final) model, which

contained the interactions, was a significant model. Eleven percent of the variance in mental health was explained.

Table 2.3 Sex and Sexual Orientation Differences in the Relationship between Minority Stress and Mental Health (N = 396)

Measure	Mental Health					
	B	*SE B*	ß	*t* (389)	ΔR^2	ΔF *(dfs)*
Step 1					.02	3.73* (2, 388)
Sex (reference category: women)	-.32	.12	-.17	-2.64**		
Sexual Orientation (reference category: lesbian/gay)	.18	.21	.08	.87		
Step 2					.00	0.73 (1, 385)
Sex*Sexual Orientation	-.25	.32	-.08	-.80		
Step 3					.07	9.16*** (3, 382)
Negative reactions	.28	.09	.24	3.19**		
Internalized homonegativity	.21	.08	.21	-2.64**		
Openness	-.64	.35	-.25	-1.86		
Step 4					.03	1.23 (9, 373)
Negative Reactions*Sex	-.13	.14	-.07	-.91		
Internalized Homonegativity*Sex	-.02	.12	-.02	.18		
Openness*Sex	.96	.44	.26	2.15*		
Negative Reactions*Sexual Orientation	-.45	.22	-.19	-2.09*		
Internalized Homonegativity*Sexual Orientation	.03	.15	.02	-.17		
Openness*Sexual Orientation	.99	.53	.25	1.86		
Negative Reactions*Sex*Sexual Orientation	.32	.32	.09	1.00		
Internalized Homonegativity*Sex*Sexual Orientation	.08	.23	.03	-.36		
Openness*Sex*Sexual Orientation	-1.40	.77	-.24	-1.76		
Total R^2					.11	3.17*** (15, 373)

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

As can been seen in Table 2.3, sex made a unique contribution to the model while sexual orientation and the interaction between sex and sexual orientation did not. Women

reported more mental health problems than men. As already seen in Table 2.2, negative reactions and internalized homonegativity made a unique contribution to the model. Receiving more negative reactions on one's sexual orientation and having a more negative attitude towards one's own same-sex sexual attraction were both related to more mental health problems. However, as indicated by the significant interaction between negative reactions and sexual orientation, the relationship between receiving negative reactions and mental health was not the same for lesbian/gay and bisexual individuals: simple slope analyses showed it was stronger among lesbian/gay individuals than among their bisexual counterparts (see Figure 2.1).

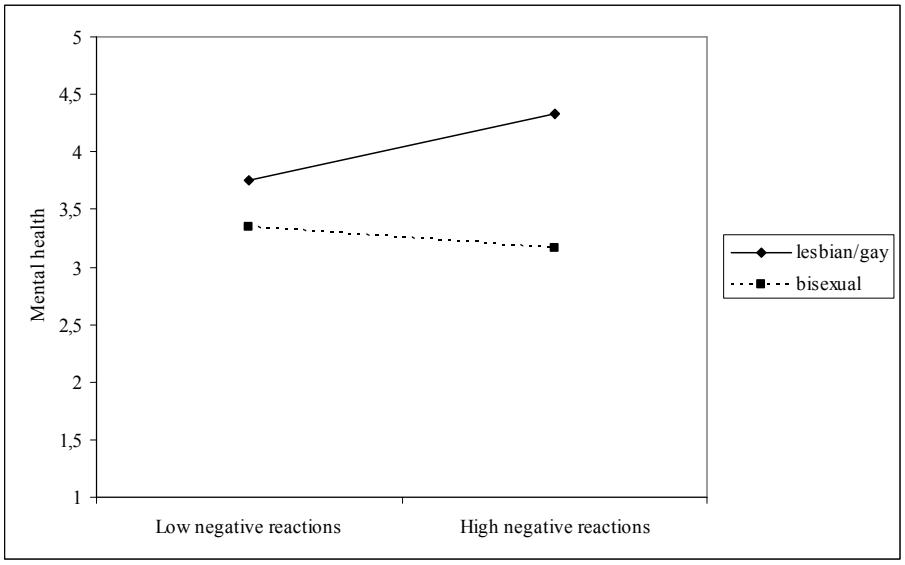

Figure 2.1 The Relationship between Negative Experiences and Mental Health by Sexual Orientation

The other significant interaction was found between sex and openness about sexual orientation. Among women, openness was a protective factor: those who were more open about their same-sex sexual attraction reported fewer mental health problems (see Figure 2.2).

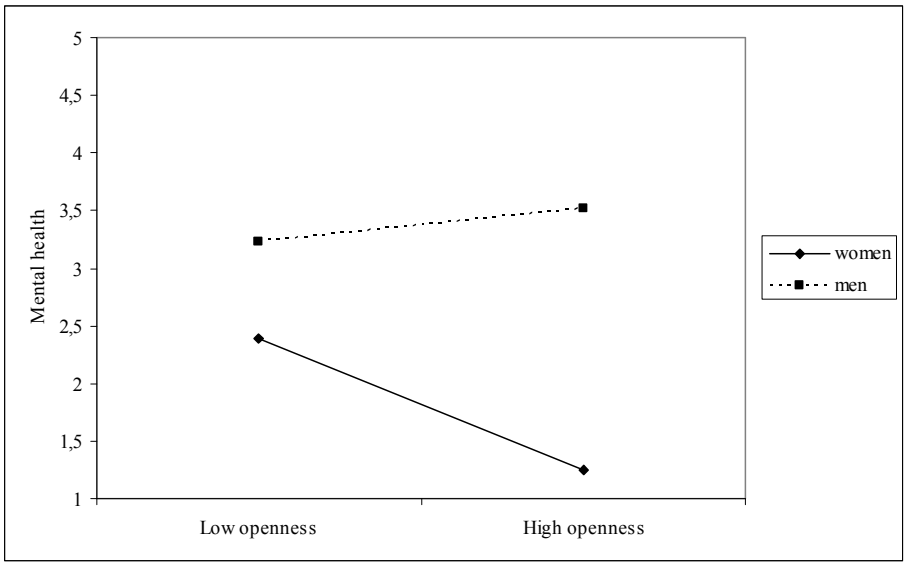

Figure 2.2 The Relationship between Openness and Mental Health by Sex

2.4 Discussion

The current study confirms that the minority stress model of Meyer (1995, 2003, 2007) not only offers an explanation for the adversarial mental health status among LGBs in countries relatively less tolerant of them. Even in the Netherlands, a country with civil rights equity (FRA, 2009a) and, compared to other countries, a tolerant attitude towards LGBs (FRA, 2009b; Keuzenkamp & Bos, 2007; Štulhofer & Rimac, 2009), LGBs experience negative reactions and internalized homonegativity and these minority stress factors were related to their mental health. To understand why minority stress is still prevalent among Dutch LGBs, one should take a closer look at Dutch attitudes towards sexual minorities. Although the Netherlands are known for their "gay-friendliness" and the levels of acceptance of sexual minorities are higher than in other countries, Dutch LGBs do face hostile attitudes and reactions. For instance, equal rights for heterosexual and LGB individuals are not supported by everyone. A recent population study showed that 11% of the Dutch population thinks that marriage for same-sex couples should be abolished, and 21% does not agree with the statement that gay couples should have the same rights as straight couples when it comes to adoption

(Keuzenkamp, 2010). There are also limitations on the acceptance of equal social behavior of sexual minorities. The same population study showed that while only 13% considers a straight couple kissing in the streets as offensive, 27% considers two women kissing as offensive, and 40% considers it offensive if the kissing involves two men.

2.4.1 Sex and sexual orientation differences

One sex difference in the level of minority stress was found: women reported lower levels of internalized homonegativity than men. This is in line with previous, mainly American studies (e.g., Balsam & Mohr, 2007; D'Augelli et al., 2002; Herek et al., 1999; Mohr & Fassinger, 2006; Rosario et al., 2001, 2002). The lack of sex differences in levels of openness is also in line with previous findings (e.g., Lewis et al., 2003; Ryan et al., 2009; Savin-Williams & Ream, 2003). However, the lack of sex differences in frequency of victimization contradicts previous findings of American studies which showed more frequent victimization among gay and bisexual men (e.g., Almeida et al., 2009; D'Augelli et al., 2002; Herek, 2009; Herek et al., 1999; Meyer et al., 2008). One possible explanation for this difference is that our measure refers to any negative reaction, while the other studies look at rather specific types of discrimination (e.g., being treated badly, insulted, threatened, hurt, abused, attacked, etc.). Since women are more likely to receive subtle negative reactions from people they know, and men are more likely to receive direct negative reactions from strangers (Kuyper, 2006), our measurement is likely to be less sex-biased and hence capture more negative reactions encountered by women. Another explanation might be that, in the Netherlands, those who react negatively to sexual minorities distinguish less between women and men than in the United States.

Bisexual individuals differed from their lesbian and gay counterparts on all three minority stressors: they reported lower levels of negative reactions, lower levels of openness, and higher levels of internalized homonegativity. These results are in line with previous, mostly American studies (e.g., Balsam & Mohr, 2007; Cox et al., 2009; D'Augelli et al., 2005; Herek, 2009; Herek et al., 1999; McKirnan et al., 1995; Morris et al., 2001; Rosario et al., 2002) showing that these differences are the same in relatively more and less tolerant countries.

Like the American study of Balsam and Mohr (2007), the minority stress model seems to be equally suitable to explain mental health problems among men and women, as well as among lesbian/gay and bisexual people in the Netherlands: adding the interactions between either sex or sexual orientation and minority stressors did not significantly improve the explained variance of our model. However, two significant interactions did reveal that minority stressors are related to the mental health of different subgroups in the LGB community in a slightly different way. Firstly, more openness about one's same-sex sexual attraction was related to fewer mental health problems among women, but not among men. The lack of a relationship between mental health and openness among men is also demonstrated in a recent Dutch study by Franssens (2010). Unfortunately, his sample did not include women. Other American studies did not find any sex differences. Lewis et al. (2003) reported no differences at the bivariate level, but did not look at potential multivariate differences. Balsam and Mohr (2007) found no relationship at all between openness and psychosocial problems.

The differential sex effect of outness in the current study might be explained by the different models of self that women and men have. Women's self-representations are more dependent on social relationships with significant others, and their self-esteem, self-enhancement and wellbeing depend more on thoughts, feelings and behaviors that express a connectedness to others than those of men (Cross & Madson, 1997). In addition, feeling understood and social support are more important to women's wellbeing (Flagerthy & Richman, 1989; Landman-Peeters et al., 2005; Lun, Kesebir, & Oishi, 2008; Rennemark & Hagberg, 1999). Hence, outness might have a more positive effect on the mental health of sexual minority women than on that of sexual minority men. Another reason might be that societal attitudes towards sexual minority women are more positive than attitudes towards men (Kite & Whitley, 2003). Therefore, women may get more supportive reactions when being open about their sexual orientation. It might thus not be the openness itself which has an impact on one's mental health, but the reaction one receives on the openness. A recent study of Rosario, Schrimshaw, and Hunter (2009) seems to support this latter line of reasoning. They tried to explain the inconsistencies found in studies examining LGB substance use and disclosure by not only looking at the number of

disclosures but also at the number of rejecting reactions from the person the LGB youth disclosed to. Their results show that LGB youth's substance use is only related to the latter. Future studies should try to explore whether this hypothesis also holds true for other health topics.

The second significant interaction was found between having experienced negative reactions regarding sexual orientation. While negative reactions were related to mental health problems among lesbian and gay participants, this link was absent among bisexual people. This is in line with the results of the study of Herek et al. (1999), where the link between hate crimes and psychological distress was only significant for lesbian and gay individuals. It might be the case that bisexual individuals can buffer the potentially negative relationship by retreating into their opposite-sex attraction. Herek et al. suggest that bisexual individuals might construct a different personal identity, and that this may affect the experience of a hate-motivated crime. The effect of negative reactions and hate crimes might depend on the primacy of one's sexual minority identity for one's personal identity. An alternative explanation is that the source and content of the negative reactions might differ between lesbian/gay and bisexuals. For example, part of the negative reactions on their identity bisexual individuals may experience are from people within the LGB community (Eliason, 1996; Mohr & Rochlen, 1999; Rust, 1993, 2002). This might result in feelings of exclusion and rejection, but such reactions from other sexual minorities might be less threatening and frightening than, for example, getting them from heterosexual individuals on the street. Before jumping into far-reaching conclusions and suggestions for revision of the minority stress model, more research is needed on the potential differences between lesbian, gay, and bisexual individuals in their experiences of different minority stressors and the relationship between these stressors and mental health.

2.4.2 Limitations and suggestions for future research

Consistently with previous research, the current study provides support for Meyer's minority stress model (1995, 2003). The findings add significantly to the existing body of knowledge in two ways. The study revealed that the minority stress paradigm is suitable to partly explain mental health of LGBs living in a relatively tolerant climate outside the United States. In addition,

the study showed that minority stress processes seem to operate largely in the same way for lesbian/gay and bisexual women and men, although some differences existed with respect to openness and negative reactions.

The study does have some limitations that should be addressed in future research. One major drawback is the operationalization of minority stress. Secondary analyses on the data on general sexual health issues among the Dutch population were used by necessity. Since the aim of this population study was to describe a broad range of sexual topics among the Dutch population, no extensive measures for minority stress were included. For example, ever experiencing negative reactions was measured by only one broad question, leaving no way of knowing what participants perceive as a negative reaction or ensuring compatibility across participants. Internalized homonegativity was measured by two items, while more extended scales are available (for critical reviews of measures for internalized homonegativity, see Szymanski et al., 2008; Williamson, 2000). In addition to more reliable and validated measures of minority stress, there is a need for further specification of the various minority stressor measures to expand the opportunities of explaining sex and sexual orientation differences. For example, measurements on encountering negative reactions should include different types of reactions and their provenance. It might also be wise to include some bi-specific measures, like people's experience of negative reactions towards their own specific bisexual identity or attitude towards their bisexual orientation (e.g., "If I could choose, I'd rather be gay than bisexual"; see for an example the scale of Sheets and Mohr (2009) measuring internalized binegativity).

Secondly, given the limited measurements of minority stress in our survey we were unable to examine the relationship between mental health and one of the minority stressors of Meyer's model – expectations of rejection or discrimination – as well as the expected protective factor of LGB social support. The links between minority stress and mental health we found might be biased, as minority stressors are likely to interact with one another. Studies by Beals et al. (2009) and Morris et al. (2001), for example, show that openness of one's sexual orientation is positively correlated to social support and involvement in the LGBT community, respectively. Hence future work should try to include

all monitory stress processes in order to obtain the independent effect of each minority stressor.

Thirdly, future research might also benefit from better sampling. The present sample was a convenient one of self-selected LGBs. LGB participants were partly taken from a general population survey and partly recruited on LGB websites. Although the current study did not find any difference between the two data collection methods in terms of minority stressors or mental health, it is likely that LGBs who have a very negative attitude towards their own sexual orientation or those who are not out do not visit LGB websites. In addition, partly because of the extra effort to include hard-to-reach population groups (such as ethnic minorities and older adults), the response rate was rather low (28% of those approached to participate in the general population study on sexual health in the Netherlands). These sampling weaknesses might have influenced the results, since previous studies show that self-selection affects the outcomes of studies on sexuality (Catania, Gibson, Chitwood, & Coates, 1990; Dunne et al., 1997; Wiederman, 1993).

Fourthly, two subgroups were underrepresented in our sample: LGBs of ethnic minority and transgender people. It is likely that both subgroups suffer from what is known as *double* or *triple* minority stress (Meyer, 2003). LGBs with an ethnic background might face racism in the native LGB community as well as relatively high levels of homonegativity in their ethnic communities (Bakker & Vanwesenbeeck, 2006; Keuzenkamp & Bos, 2006). Transgender individuals, like bisexual individuals, are often grouped together with the L and the G under the umbrella term of *LGBT*, neglecting their possible specific needs and problems. Prior research shows high levels of victimization among transgender individuals (e.g., Hill & Willoughby, 2005; Nagoshi et al., 2008; Stotzer, 2009). They also face legal problems, even in the Netherlands (FRA, 2009a; Hammarberg, 2009). For example, according to current Dutch law, sex reassignment in official documents is only allowed if one has been surgically rendered irreversibly infertile. Consequently, transgender people might experience higher levels and different forms of minority stress, since their gender roles and gender identity differ from LGB and heterosexual individuals. Although it will be hard to contact LGBs of ethnic minorities and transgender people, as homosexuality in ethnic minority communities and being transgendered are still

among the greatest taboos, future research should try to include them.

Not so much a limitation as well as a point of importance is the way of operationalization of sexual orientation in the current study. Sexual orientation can be operationalized in multiple ways. Researchers can measure the self-identification of their participants, the sex of participants' sexual partners, or their same-sex and opposite-sex sexual attraction. Each of these measures has drawbacks. For example, distinguishing people by their sexual behavior excludes individuals who are not sexually active, while distinguishing by self-identification does not include persons who have same-sex sexual behavior and/or same-sex attraction but have not (yet) adopted a sexual minority identity. Same-sex attraction seems to exclude fewer groups, but ignores the fact that many individuals with same-sex sexual attraction do not act on these feelings or identify as a sexual minority. Studies using various different operationalizations find different results. For example, Hegna and Rossow (2007) found in their study among LGB youth that same-sex experiences and same-sex attraction were differently related to substance use and social integration. For alcohol use, same-sex sexual experience was a stronger risk factor than same-sex attractions, while same-sex attraction was a stronger risk factor for the use of other drugs. In addition, while having same-sex experiences was related to better social integration, same-sex attraction was related to being less socially integrated. A meta-analysis of Marshal et al. (2008) on substance use shows that the strongest effect of sexual orientation was found when sexual orientation is measured by self-identification. Saewyc et al. (2009) found in surveys based on self-identification or attraction that levels of protective factors for health problems (like family connectedness, school connectedness, and religious involvement) were higher among bisexual than lesbian/gay participants. However, when same-sex partners were used as a measure, those individuals with sexual partners of both sexes reported lower levels of protective factors than individuals with same-sex partners. Since levels of wellbeing and risk factors vary according to the measure that is used, the current results cannot be generalized either to self-identified LGBs or to individuals with same-sex partners.

The last limitation is the cross-sectional design of the study, which actually precludes the assessment of causality. In line with

the minority stress theory, we questioned and tested whether minority stressors have an impact on LGBs' mental health. One could obviously argue that causality also works the other way around. For example, mental health problems may influence levels of internalized homonegativity (having mental health problems leads to doubting personal acceptance of one's same-sex sexual attraction) or might make individuals more vigilant towards others' attitude and behavior, like interpreting a social conflict as a negative reaction on their same-sex sexual attraction. Longitudinal data are needed to sort out where the primacy lies.

2.4.3 Counseling implications

Although the current study did focus on the general population of LGBs and was thus not restricted to those seeking professional help or the clinical population, the findings nevertheless are informative and may help counselors of LGB individuals. Among lesbian/gay and bisexual women and men, internalized homonegativity seemed to have a deteriorating effect on mental health. Issues like personal attitude and beliefs about a lesbian/gay or bisexual orientation and the acceptance of one's same-sex feelings should be addressed as part of the counseling of LGB clients with mental health problems. Especially among lesbian/gay participants, addressing negative reactions from others (e.g., people with whom they have frequent contact) on their sexual orientation is also important. In line with Szymanski (2009), the current findings suggest that counselors should be encouraged to investigate the discriminatory history of their LGB clients, and assist them in recognizing the negative impact of these experiences and reducing the feelings of shame and self-blame that may result from past negative reactions. For a counselor to be able to adequately expose issues like internalized homonegativity or negative reactions, gay-affirmative and non-biased practices are crucial.

On a societal level, the relationship between LGBs' mental health and internalized homonegativity and negative reactions calls for interventions to increase acceptance of sexual diversity. It therefore seems promising that the current Dutch ministry responsible for LGBT issues has made social acceptance of LGBs the main focus of their four-year policy (Ministry of Education, Culture, and Science, 2007). If this policy succeeds in increasing the societal acceptance of lesbian/gay and bisexual men and

women, the prevalence of negative reactions and internalized homonegativity might decrease and, consequently, the mental health of LGBs is likely to improve.

CHAPTER 3

SOCIAL EMBEDDEDNESS AND LONELINESS AMONG HETEROSEXUAL AND LGB OLDER ADULTS

This chapter is based on the following publication:
Fokkema, T., & Kuyper, L. (2009). The relationship between social embeddedness and lowliness among older lesbian, gay, and bisexual adults in the Netherlands. *Archives of Sexual Behavior, 38,* 264-275.

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Abstract. Research has shown that aging lesbians, gay men, and bisexuals (LGB's) often experience feelings of loneliness. The main aim of this study was to examine whether older LGB adults in the Netherlands are lonelier than their heterosexual counterparts and, if so, whether the higher levels of loneliness can be attributed to a lower degree of social embeddedness. Using data from the Gay Autumn project and the NESTOR survey on Living Arrangements and Social Networks of Older Adults, we found that LGB elders were significantly lonelier and less socially embedded than heterosexual elders. Compared with their heterosexual peers, older LGB's were more likely to have experienced divorce, to be childless or to have less intensive contact with their children. They also had less intensive contact with other members of their families and they were less frequent churchgoers. Their weaker level of social embeddedness, however, only partially explained the stronger feelings of loneliness among older LGB adults. Nor could their higher levels of loneliness be attributed to other, non-social embeddedness factors (health, living conditions, self-esteem, and socioeconomic status). Emphasis on other aspects of social embeddedness, such as the quality of social relationships in the private domain and minority stress, is an important challenge for future research.

3.1 Introduction

Aging lesbians, gay men, and bisexuals (LGB's) are still comparatively invisible (Dworkin, 2006; Orel, 2006), yet a number of studies in the Netherlands have shown that they probably constitute a fairly large group (Baks, 2003; Sandfort & de Vroome, 1996; Schuyf, 1996). A recent population study estimated that, based on their feelings of sexual attraction, sexual behavior, and self-identification, 6.1 percent of Dutch men and 5.2 percent of Dutch women are either gay, lesbian or bisexual (Kuyper, 2006). In 2006, 1,989,000 men and 2,327,000 women aged 55 years or older were living in the Netherlands (www.cbs.nl). Based on these figures, the Netherlands may now have more than 245,000 older LGB adults.

Schuyf (1996) portrayed the position of self-identified older LGB adults in the Netherlands by means of 60 interviews. Her study showed that many LGB's aged 55 years and older experienced feelings of loneliness: about 20 percent of the older gay men and 35 percent of the older lesbian women said they frequently experienced feelings of loneliness. A more quantitative study by van de Meerendonk, Adriaensen, and Vanwesenbeeck (2003) among 161 self-identified aging LGB's also showed that a large number of gays and lesbians over-55s feel lonely: 34 percent were found to be moderately lonely and as many as 16 percent were very (extremely) lonely. These percentages were above average, compared with the figures for loneliness among the older adult population as a whole. Estimates show that for the total 55+ population in the Netherlands, 22 percent were moderately lonely and 3 percent were very (extremely) lonely (van Tilburg & de Jong Gierveld, 1999). Studies carried out outside the Netherlands also show that feelings of loneliness constitute a problem among many older gay men and women. For example, Grossman, D'Augelli, and O'Connell (2001) investigated 416 self-identified LGB's aged 60 to 91 and found that 27 percent of the participants felt a lack of companionship and 13 percent reported feelings of isolation.

The fact that loneliness has been found to be greater among gay and lesbian elders could possibly be explained by a weaker social embeddedness as the feeling of lacking certain social relationships or lacking the desired intimacy in one's existing relationships constitute the essence of loneliness (de Jong Gierveld, 1984). Research has repeatedly shown that loneliness is more common among people who do not have a partner or who do

not have children, people with small social networks, and people who do not participate actively in social life in the broadest sense of the word (Dykstra & de Jong Gierveld, 1999; Dykstra & Fokkema, 2007). Although general studies of aging are focused on heterosexuals and existing studies among older LGB adults are based on small, non-random samples, there is some evidence that today's generation of LGB elders score less favorably in these areas than their heterosexual counterparts.

First of all, older LGB's are less likely to have a steady partner and children than heterosexual seniors (Cahill, South, & Spade, 2000; Quam & Whitford, 1992; Ross, Scott, & Wexler, 2003; Shippy, Cantor, & Brennan, 2004; Wiggins, 2003). In the so-called *openhouse* survey held in San Francisco, containing the largest sample of gay and lesbian seniors (709 over the age of 50) to date, 24 percent of gay men and 19 percent of lesbians over the age of 65 lived alone; the comparable percentages for San Franciscan older men and women, according to census data, were 3 and 8 percent, respectively (Adelman, Gurevitch, de Vries, & Blando, 2006). Additionally, 72 percent of gay men and 43 percent of lesbians over the age of 65 reported having no children, significantly different from Himes' (1992) estimation that approximately 80 percent of Americans over the age of 60 have at least one living child. Findings of Schuyf's (1996) qualitative interview study suggest that the higher likelihood of being partnerless and childless also holds for LGB elders in the Netherlands. Whereas some Dutch older LGB adults have been married with someone of the opposite sex, most of these marriages ended in divorce. And most of those aging LGB's who did not marry tend to be without a partner and childless. Schuyf explains this finding by emphasizing that, in the past, there were fewer opportunities for people to get to know a partner of the same sex because of the stigma attached to homosexuality. As bars were the only established meeting places for homosexuals in former years (Satre, 2006), contact might to be fleeting and superficial.

Second, there are indications that gay and lesbian elders have, on average, smaller social networks than heterosexuals. Findings from the Dutch study of Schuyf (1996), for instance, suggest that a significant proportion of the participants had less (close) contact with their families and with any children they may have. These findings are not really come as a surprise given the

fact that some of today's generation of LGB elders have decided never to tell their relatives about their sexual orientation in fear of homophobic responses (Balsam & D'Augelli, 2006). Results of Orel's (2004) study, based on 26 self-identified LGB people over the age of 65 who participated in three focus groups, showed that there was an overwhelming sense for closeted participants that this nondisclosure prevented them from feeling emotionally close to family members. Older gays and lesbians who *have* come out of the closet have often had to pay a high price: it is not unusual for the individual never to be broached again after the disclosure of their homosexual orientation or even to be excluded from the heterosexual family relationships (D'Augelli, Hershberger, & Pilkington, 1998; Kimmel, Rose, Orel, & Greene, 2006; Wierzalis, Barret, Pope, & Rankins, 2006). In addition, as older LGB adults are less likely to have a steady partner, and as partners bring with them a network of social relationships, their networks tended to be smaller. Furthermore, the current older LGB population grew up in a social environment which was not very "gay friendly" (e.g., homosexuality was considered as a sin or mental illness and no laws protected the right of gay people; Grossman, 2006; Reid, 1995) and AIDS has had a devastating effect on the social network of many LGB elders (Blevins & Werth, 2006; Grossman, 2006; Wierzalis et al., 2006). Having said that, it is important to note that a lack of close relationships with family is often compensated for by a wider network of friends and acquaintances (Grossman, D'Augelli, & Hershberger, 2000; Grossman et al., 2001). For example, Shippy et al. (2004) found that 93 percent of the 233 interviewed gay men aged 50 to 82 had at least one friend/confidant, which is considerably higher than the percentage of older New Yorkers with one or more friends/confidants (39%). Apparently, aging LGB's anticipate a lack of close ties with their relatives by creating "families of choice" (Weston, 1991).

Finally, there are reasons to assume that older LGB adults participate less actively in social life than their heterosexual counterparts. This is related, in part, to the fact that many LGB elders do not have a steady partner and partners tend to have a socially integrating effect in the sense that people are more likely to engage in social activities with a partner than alone (Dykstra & de Jong Gierveld, 1999). Another factor is that LGB elders do not feel welcome in the commercial gay scene, which tends to focus on physical appearance and on young people (Brotman, Ryan, &

Cormier, 2003; Cahill et al., 2000; Ehrenberg, 1996; Wierzalis et al., 2006), and prefer not to take part in social activities arranged by organizations of the gay subculture (Berger & Kelly, 2001; Jones, 2001; Schuyf, 1996; Soesbeek & Bonfrere, 1993). Nor do they feel at home among their heterosexual contemporaries for whom children and grandchildren tend to be the main topic of discussion (Galesloot, 2003). Heterosexual elders often have more negative attitudes towards homosexuality and they hold more conservative values (van de Meerendonk & Scheepers, 2004); as a result, aging gays and lesbians may fear that they will face a lack of understanding, disapproval, and rejection if their homosexuality were to be discovered. Another factor is that many gay and lesbian elderly have turned their back on the church, which still acts as an important arena for social integration, at least among the current generation of elderly (Dykstra & de Jong Gierveld, 1999).

To our knowledge, the fact that older LGB adults tend to be lonelier than their heterosexual peers because they are less socially embedded has never been studied empirically. In this study, we have carried out exploratory research into differences in loneliness between homosexual and heterosexual elderly in the Netherlands. For this purpose, data of the Gay Autumn survey, a recent survey held among a relatively large number of older LGB adults, were compared with data of a national survey among the general senior population. The research questions we addressed were: (1) To what extent can differences in loneliness between older LGB adults and their heterosexual peers be explained by differences in social embeddedness? and (2) Can we identify factors other than social embeddedness variables that could contribute independently to explaining differences in loneliness between LGB and heterosexual elders?

3.2 Method

3.2.1 Participants

The data of the older LGB and heterosexual adults used in this article were taken from two different surveys: the Gay Autumn survey (van de Meerendonk et al., 2003) and the NESTOR/LSN survey on Living Arrangements and Social Networks of Older Adults (Knipscheer, de Jong Gierveld, van Tilburg, & Dykstra, 1995). Participants in these two surveys included both institutionalized elders and those who live independently.

The aim of the Gay Autumn project was to gain more insight into the caring needs of and care facilities for LGB elders. For this purpose, 161 self-identified LGB's (84 gays, 9 bisexual men, 42 lesbians, and 26 bisexual women) between the ages of 55 and 85 years completed a written questionnaire in the autumn of 2002. Because of their small sample sizes, the bisexual male and female participants were grouped together with the gay and lesbian participants. The participants for the Gay Autumn project were recruited in various ways, such as through announcements in the newsletter of ANBO, an organization that strives for independence and freedom of choice for senior citizens (50+) and on the website of SeniorWeb, a non-profit organization in the Netherlands whose mission is to increase the social participation of people who did not grow up with computers, as well as through the networks of the researchers themselves and through gatherings for aging gays and lesbians. People who were interested were able to sign up for participation in the survey. The questionnaire was completed by 77 percent of those who had shown an interest.

The aim of the NESTOR/LSN project was to get an insight into the living arrangements and social networks of the general older population in the Netherlands. For this purpose, face-to-face interviews were held in 1992 with 4494 people between the ages of 55 and 89 years. They constituted a stratified sample of people selected from the population registers of 11 municipalities in three regions in the Netherlands, varying in terms of size and degree or urbanization. The response rate was 62 percent. Since the participants of the NESTOR/LSN survey formed the heterosexual comparison group in our study, those who cohabited with a partner of the same sex at the time of the interview (outside of marriage) or had done so in the past (n = 16) were excluded; it was not possible to exclude possible LGB participants of the NESTOR/LSN survey who had never lived with a partner. Our analyses focused only on participants for whom data were available on all relevant variables[2]: a total of 152 gay and lesbian and 3466 heterosexual older adults.

[2] In order to keep the group of older LGB adults sufficiently large, missing data on a number of variables were averaged. This was the case for the variables "church visits" (n = 5), "ADL score" (n = 23), "number of years in living situation" (n = 32), "evaluation of living situation" (n = 77), and "self-esteem" (n = 329).

3.2.2 Procedure

Data from the Gay Autumn survey were pooled with data from the NESTOR/LSN survey in order to compare loneliness and its determinants among the older LGB adults with those among their heterosexual counterparts. This was possible because the questions in the two surveys, and the way in which they were formulated, were very similar. Having said that, there were also differences between the two surveys and this should be borne in mind when interpreting the results. The first difference was the year in which the participants were interviewed: 2002 (Gay Autumn) and 1992 (NESTOR/LSN). The effect of this difference is likely to be small, however, as research has shown that the incidence of loneliness hardly varies over time. Victor et al. (2002), for instance, compared the prevalence of loneliness among British older people in 1948, 1957, 1963, and 2001; in the study of Dörling (1997), West German loneliness data from representative samples of the adult population were analyzed on almost bi-yearly observations in 1973. Both studies showed that the number of people who feel lonely has not changed during the observation period. The way in which participants were recruited also differed. Whereas participants in the Gay Autumn survey were self-selected, participants in the NESTOR/LSN were randomly selected. It is difficult to determine what the effect of this could be on the research results. In view of the recruitment channels used (networks of researchers, Internet sites, magazines, and newspapers for gay people), it may well be that the participants were above average in terms of social participation (in the gay scene) and level of education and income. One could also assume that gay men and women who were less open and less positive about their sexual orientation were underrepresented in the sample (for a discussion about the sampling of homosexual respondents, see Sandfort, 1997). The third difference between the two surveys was the interviewing method: written questionnaires in Gay Autumn and face-to-face interviews in NESTOR/LSN. Earlier research has shown that face-to-face interviews yield lower loneliness scores because respondents are inclined to be more positive about themselves in interviews (de Jong Gierveld & van Tilburg, 1999). Finally, despite similar formulation of most of the questions, some differences in item wording and answer categories did exist. These differences are noted in the measures section.

3.2.3 Measures

Loneliness

Loneliness was measured using the Loneliness Scale developed by de Jong Gierveld and Kamphuis (1985). This scale consists of 11 items in which the word "loneliness" did not feature. Five items were positively formulated and expressed bonding and a sense of belonging. For example: "There are plenty of people I can turn to in times of need." Six items were negatively formulated and expressed feelings of lacking something in their current relationships. An example of such an item is: "I miss having a really close friend." Disagreeing (the answers "no" and "more or less") with the five positively formulated items and agreeing (the answers "yes" and "more or less") with the six negatively formulated items is indicative of feelings of loneliness and was assigned the code 1.[3] As a result, the score on the scale ranged from 0 to 11 with a reliability of 0.83 (Cronbach's alpha) in this study. The higher the score, the lonelier the person was. A score of three or more is indicative of moderate loneliness; a score of nine or higher is indicative of strong feelings of loneliness (van Tilburg & de Jong Gierveld, 1999).

Social Embeddedness

In order to examine whether higher levels of loneliness among older LGB adults could be attributed to a weaker social embeddedness, three groups of social embeddedness indicators were assessed: the partner relationship and partner history, social relationships, and social participation.

Partner relationship and partner history. Both surveys included information on the current type of partner relationship and past relationship breakups, if any. This information was coded as two sets of dummy variables. The first set distinguished between participants who were in a first marriage or consensual union (the reference group; we refer to this group as those who lived with a partner for the first time), those who cohabited (inside or outside of marriage) after a relationship breakup in the past, those with a so-called Living-Apart-Together (LAT) relationship where partners do not actually cohabit, and those participants who did not have a partner. The second set of dummy variables related to a specific

[3] In the Gay Autumn survey, the original answer categories were: (1) no!; (2) no; (3) more or less; (4) yes; and (5) yes!. The first two and last two answer categories were combined.

characteristic of the partner history, namely the stability of, or changes, that had taken place within their partner status. We created three categories: participants whose partner status had never changed (reference group), those who had ever experienced divorce or a relationship breakup, and those whose relationship had ended through the death of their partner.

Social relationships. The participants were asked whether they had regular contact (at least once a month) with four types of persons: children, other members of family, friends, and neighbors. Contact was interpreted broadly, and included home visits, telephone conversations, and visits outside their own homes. Three categories were distinguished with respect to contact with children: childless participants (reference group), participants who were in contact with their children less than once a month, and those who saw or spoke to their children more often. With respect to the other three types of relationships, the participants were divided into two groups: those who were in contact with other family members, friends or neighbors at least once a month and those who were in less frequent contact.

Social participation. The participants were asked how often, on average, they went to church. Those who went to church at least once a week were distinguished from those who attended church services less frequently or never. We also included paid employment (0 = no; 1 = yes) and volunteer work (0 = no; 1 = yes).

Non-Social Embeddedness Variables

The literature has shown that factors other than social embeddedness variables also affect loneliness. A person's health, living conditions, self-esteem, and socioeconomic status have been found to play an important role (e.g., Dykstra & de Jong Gierveld, 1999; Dykstra & Fokkema, 2007; Dykstra, van Tilburg, & de Jong Gierveld, 2005).

Health. Two variables were used to measure an individual's health status. The first variable was the subjective evaluation of one's state of health, determined by the question "How would you rate your general state of health?" (0 = very good; 4 = poor). The second variable related to functional capacity, i.e., the extent to which the participant was able to carry out four activities of daily living, including climbing and descending stairs and getting dressed (0 = no limitations; 16 = serious limitations).

Living conditions. Two variables were included in the analysis. The first variable related to the number of years the participants had been living in the current dwelling (range, 0-84). The second variable reflected the participants' evaluation of their living situation. They were asked whether (1) the neighborhood in which they lived was a pleasant place to live, (2) they ever had been harassed in their neighborhood, (3) they felt safe during daytime walking down the street and doing their shopping, and whether (4) they felt safe walking down the street at night. The answers to these questions (0 = no, 1 = yes) were then summed.
Self-esteem. Self-esteem was measured using the short version of a scale developed by Brinkman (1977). The following four statements were presented to the participants: (1) I feel quite secure about myself; (2) I have a positive view of myself; (3) Sometimes I feel useless; and (4) Generally, I am pleased with myself. Summing the answers to each item (0 = no, 1 = more or less, 2 = yes[4]), and first recoding the third, negatively formulated item, yielded a scale score ranging from 0-8. A higher score on the scale was indicative of higher self-esteem.
Socioeconomic status. Two variables were used to measure socioeconomic status. The first was the level of education reached, which was determined by asking the participants what their highest level of education was (with a diploma). Nine categories were distinguished, ranging from "primary school not completed" to "completed university education." These categories were expressed in terms of the smallest possible number of years participants needed to attain the level in question (range, 5-18). The second variable was a closed question into the net household income per month. For this, the incomes in each category were taken as the median value in the category in question. Incomes above 2270 euros were fixed at 2270 euros.

3.3 Results

With the aid of a 2 (sexual orientation) x 2 (sex) analysis of variance, we examined differences between LGB's and

[4] The original answer categories in the Gay Autumn survey were: (1) totally disagree; (2) disagree; (3) neither agree nor disagree; (4) agree; and (5) totally agree. The first two and last two answer categories have been combined and were given the score 0 ("no") and 2 ("yes"); the middle category was equated with the middle group in NESTOR/LSN.

heterosexual men and women in terms of age, the explanatory social and non-social embeddedness variables, and the dependent variable loneliness. Table 3.1 presents the results. The LGB participants were significantly younger than the heterosexual participants: mean age was 66 years for gay men and 63 years for lesbians, compared with 70 and 69 years for heterosexual men and women.

As expected, the LGB elders interviewed were less socially embedded than their heterosexual counterparts. Significantly more heterosexual men and women lived with a partner for the first time. In turn, significantly more LGB's had experienced divorce and reported being in a LAT relationship. Significantly more gay men had lost their partners by death and lived alone than their heterosexual counterparts, whereas the reverse applied among women. In addition, the LGB participants were significantly more likely to be childless, they had significantly less intensive contact with their children (especially gay men) and other family members, if any, and were significantly less frequent churchgoers. Note, however, that the LGB participants compared favorably with their heterosexual peers in a number of other respects. They were significantly more likely to have a paid job (especially lesbians) or to do volunteer work. The number of older adults who were in contact with friends and neighbors at least once a month was also found to be significantly higher among gays and lesbians than among the heterosexual participants. This suggests that the absence of a partner, children, and/or contact with other members of family was compensated for, in part, by intensive contact with friends and neighbors. In other words, the LGB participants seemed to anticipate a lack of close ties with their relatives by creating "families of choice".

The socioeconomic status of the LGB elders was significantly better than that of the older heterosexuals: besides a higher level of education, the aging LGB's had an average income of about 1700 euros to spend each month, compared with an average income of about 1050 euros per month among their heterosexual peers. Additionally, the LGB participants had been living significantly fewer years in their current dwelling. Older LGB adults did not differ significantly from the heterosexuals in terms of satisfaction with their living situation, health (both subjective and objective), and self-esteem.

Table 3.1 Descriptive characteristics: means (and *SD*) of all independent variables and the dependent variable

	Homosexuals (*n*=152)		Heterosexuals (*n*=3466)		Difference significance		
	Men (*n*=86)	Women (*n*=66)	Men (*n*=1702)	Women (*n*=1764)	Sexual orient-tation	Sex	Sexual orien-tation x sex
Age (in years)	65.69 (7.39)	62.65 (6.42)	70.14 (8.87)	69.47 (8.94)	***	**	ns
Type of partner relationship					***	***	**
In first marriage/cohabiting	0.16	0.09	0.71	0.49			
Remarried/formerly married, cohabiting	0.08	0.08	0.09	0.03			
'LAT' relationship	0.38	0.46	0.03	0.02			
No partner	0.37	0.38	0.17	0.47			
Stability of partner history					***	***	ns
Divorced	0.23	0.39	0.08	0.08			
Widowed	0.27	0.09	0.17	0.37			
No change	0.50	0.52	0.76	0.55			
Children					***	ns	*
Childless	0.62	0.52	0.12	0.14			
Less than 1x per month contact with child(ren)	0.11	0.05	0.04	0.03			
At least 1x per month contact with child(ren)	0.28	0.44	0.84	0.83			
Other social relationships							
At least 1x per month contact with other members of family	0.66	0.71	0.86	0.89	***	**	ns
At least 1x per month contact with friends	0.83	0.91	0.30	0.42	***	***	ns
At least 1x per month contact with neighbors	0.81	0.73	0.52	0.59	***	***	ns
Social participation							
Weekly church visits	0.14	0.02	0.30	0.34	***	*	*
Paid job	0.20	0.41	0.16	0.08	*	***	ns
Volunteer work	0.43	0.32	0.33	0.26	***	***	***
Health							
Rating of own health	2.35 (0.97)	2.40 (1.04)	2.30 (0.90)	2.36 (0.86)	ns	*	ns
ADL score	0.77 (1.61)	0.70 (1.77)	0.86 (2.03)	1.27 (2.46)	ns	***	ns

Table 3.1 (Continued)

	Homosexuals (*n*=152)		Heterosexuals (*n*=3466)		Difference significance		
	Men (*n*=86)	Women (*n*=66)	Men (*n*=1702)	Women (*n*=1764)	Sexual orient-tation	Sex	Sexual orien-tation x sex
Living conditions							
Duration	16.85	10.94	20.16	18.52			
	(15.15)	(7.86)	(15.92)	(15.21)	***	***	ns
Satisfaction	3.57	3.89	3.74	3.54			
	(0.71)	(0.40)	(0.57)	(0.71)	ns	***	***
Self-esteem	6.44	6.59	6.84	6.43			
	(2.02)	(1.94)	(1.45)	(1.71)	ns	***	*
Socioeconomic status							
Education	13.00	13.77	9.06	7.34			
	(3.24)	(3.45)	(4.14)	(3.97)	***	***	***
Income	1722	1670	1185	982			
	(537)	(559)	(500)	(440)	***	***	ns
Loneliness							
Loneliness scale	4.02	3.14	2.06	2.34	***	**	**
Moderately lonely	0.34	0.33	0.30	0.31	ns	ns	ns
Seriously lonely	0.19	0.14	0.02	0.05	***	***	*

$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Older LGB adults were significantly lonelier than their heterosexual peers. The difference in loneliness, however, was larger among men. Mean loneliness score was 4.0 for gay men compared with 2.1 for heterosexual men. The equivalent scores for women were 3.1 and 2.3. No significant differences were found in terms of feeling moderately lonely (a score of three to eight), while the LGB and heterosexual group did differ in terms of feeling seriously lonely (a score of nine or higher). 19 percent of the gay and 14 percent of the lesbian participants were seriously lonely. The equivalent percentages for heterosexual older adults were 2 and 5.

In order to examine to what extent the higher levels of loneliness among older LGB adults were attributable to their weaker social embeddedness and/or differences in other factors, a stepwise multivariate regression analysis on loneliness was carried out. Table 3.2 presents the results of this analysis.

Table 3.2 Determinants of the degree of loneliness among homosexual and heterosexual elderly (standardized regression coefficients)

	Model 1	Model 2	Model 3
Sexual orientation			
Homosexual	.13 ***	.09 ***	.11 ***
Control variables			
Age	.16 ***	.01	-.00
Woman	.05 **	-.03	-.07 ***
Type of partner relationship			
(Versus in first marriage/cohabiting)			
Remarried/Formerly married, cohabiting		-.03	-.03
'LAT' relationship		-.02	-.02
No partner		.19 ***	.16 ***
Stability of partner history			
(Versus no change)			
Divorced		.08 **	.07 **
Widowed		.10 **	.10 **
Children			
(Versus childless)			
Less than 1x per month contact with child(ren)		.04 *	.04 *
At least 1x per month contact with child(ren)		-.06 **	-.05 *
Other social relationships			
At least 1x per month contact with other family		-.13 ***	-.12 ***
At least 1x per month contact with friends		-.10 ***	-.09 ***
At least 1x per month contact with neighbors		-.05 **	-.04 **
Social participation			
Weekly church visits		-.10 ***	-.08 ***
Paid job		-.06 **	-.03
Volunteer work		-.06 ***	-.03
Health			
Rating of own health			.11 ***
ADL score			.05 **
Living conditions			
Duration			.02
Satisfaction			-.10 ***
Self-esteem			-.22 ***
Socioeconomic status			
Education			-.02
Income			-.04 *
R^2 (adjusted)	.04	.17	.26

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

The control variables age and sex were introduced at the first step (Model 1). At step two of the analysis, the social embeddedness variables were entered in the regression equation (Model 2). Health, living conditions, self-esteem, and socioeconomic status were introduced at the final step (Model 3). The models included only main effects; there were no significant interaction effects between sexual orientation and the other variables. Moreover, to compare the contribution of the various variables to explaining differences in loneliness, the coefficients of the variables were standardized.

Model 1 showed that, after controlling for composition differences in age and sex, older LGB adults remained significantly lonelier, on average, than older heterosexuals. The first model also showed that loneliness increased with age and that women were lonelier than men.

The characteristics of social embeddedness were introduced in Model 2. The level of loneliness of older adults, regardless of their sexual orientation, appeared to be strongly determined by their degree of social embeddedness, as shown by the strong increase in the explained variance in Model 2 (17%) compared with Model 1 (4%).

Model 2 showed that older adults without a partner were significantly lonelier than their peers who had a partner, irrespective of their sexual orientation. We also found an effect of relationship dissolution: people who had experienced divorce or the death of a partner were lonelier on average than those who had either never lived with a partner or had never experienced a relationship breakup. No significant differences in loneliness by type of partner relationship were found among people who had a partner. The degree of loneliness among older adults who again went to live with a partner following the breakup of their relationship, or who had a partner with whom they did not live, was comparable to that among those who lived with a partner for the first time. In other words, the different partner relationships offered equal protection against loneliness. Apparently, the factors that caused higher levels of loneliness following relationship dissolution no longer applied when new partner relationships were entered into.

In addition, older adults were less lonely if they were in frequent contact with their children, other members of family, friends or neighbors. Significant differences in loneliness were also

found between older adults who saw or spoke to their children less than once a month and their childless peers. Contrary to expectations, the former group was found to be lonelier, on average, than the latter. In other words, the lack of intensive contact with existent children caused higher levels of loneliness than to have never had children. People with children probably had the hope that their children would take an active interest in them in their later life, while childless people probably get used not to count on that source of support anyway. Social participation affected loneliness as well: older adults were significantly less lonely if they went to church at least once a week, if they were still active in the labor market, and if they performed volunteer work.

By adding the differences in social embeddedness described in the foregoing, the differences observed in age and sex were no longer significant. Supplementary analyses have shown that this can be largely attributed to the effect of the partner relationship and partner history variables. The fact that being without a partner following widowhood increased with age and that, due to sex differences in life expectancy, this was more common among women than among men, largely explained why both the oldest people and women were significantly lonelier than their counterparts.

When bearing in mind the weaker social embeddedness of the older LGB adults in a number of areas (Table 3.1), the effect of sexual orientation on loneliness was found to decline– the value of the coefficient for sexual orientation dropped from 0.13 in Model 1 to 0.09 in Model 2–but remained significant nevertheless. In other words, contrary to our expectations, the higher level of loneliness among LGB elders could be attributed only in part to their weaker social embeddedness.

The fact that the effect of sexual orientation was still significant after controlling for differences in social embeddedness can be explained by the intensive contact many of the older LGB adults had with friends. This is shown in Table 3.3, which presents the percentage changes in the effect of sexual orientation on the degree of loneliness after controlling for age and sex (Model 1) and all other variables, or groups of variables, independently. The introduction of the partner relationship and partner history variables contributed most strongly to the decline in the effect of sexual orientation: the difference in loneliness between aging LGB's and heterosexuals declined by almost a third (29% and

31%, respectively) when, besides age and sex, account was taken only of the partner relationship and partner history. The frequency of contact with children or with other members of family was also found to contribute substantially to a declining effect of sexual orientation: a decrease of 25 and 19 percent, respectively. The fact that older LGB adults were much less frequent churchgoers than their heterosexual peers played a less important role (a 10% reduction in the effect of sexual orientation). Conversely, an *increase* in the effect of sexual orientation was found following the introduction of the contact frequency with friends variable: differences in loneliness between older LGB adults increased by a fifth (21%) when controlling for this variable. In other words, the LGB's had more intensive contact with their friends than the heterosexuals and this fact as such resulted in *less* loneliness among the older LGB adults.

Table 3.3 (Percentage change in) the effect of sexual orientation following inclusion of the individual variables

	Effect sexual orientation (standardized regression coefficient)	Percentage change
Model 0: not adjusted	.108***	
Model 1: adjusted for age + sex	.129***	+19.4
Model 1 + type of partner relationship	.098***	-28.7
Model 1 + stability of partner history	.096***	-30.6
Model 1 + contact with children (if any)	.102***	-25.0
Model 1 + contact with other members of family	.108***	-19.4
Model 1 + contact with friends	.151***	+20.4
Model 1 + contact with neighbors	.135***	+5.6
Model 1 + church visits	.118***	-10.2
Model 1 + paid job	.131***	+1.9
Model 1 + volunteer work	.130***	+0.9
Model 1 + health	.125***	-3.7
Model 1 + living conditions	.129***	0.0
Model 1 + self-esteem	.125***	-3.7
Model 1 + socioeconomic position	.152***	+21.3

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

In addition to the control variables age and sex and the social embeddedness variables, Model 3 included differences in health, living conditions, self-esteem, and socioeconomic status. The level of loneliness of older adults, regardless of their sexual orientation, appeared to be strongly determined by these factors as well: the explained part of the variance increased from 17 to 26 percent.

Model 3 showed that good health (both subjective and objective), a positive evaluation of their living conditions, high self-esteem, and a high socioeconomic status resulted in lower feelings of loneliness among older adults, regardless of their sexual orientation. No significant differences in loneliness were found for the number of years spent in the current living situation. Of the two socioeconomic variables, only the level of household income was found to significantly influence the degree of loneliness among older adults: the higher the household income, the lower the level of loneliness. Upon closer inspection, we saw that the absence of significant differences in loneliness based on level of education could be explained by a high correlation between the level of education and level of household income. A significant correlation was found between the level of education and the degree of loneliness–on average, older LGB's and heterosexuals with a lower level of education attained were lonelier than those with a higher level of education. That said, the correlation largely disappeared when the level of household income was included in the analysis.

In this last multivariate model, having a paid job or doing volunteer work was no longer found to have a significant effect. We also found that the level of the coefficient for sex was negative. In other words, after controlling for the effects of the non-social embeddedness variables analyzed, older women were found to be *less* lonely, on average, than their male counterparts. Closer analysis showed that this could be attributed to the inclusion of the evaluation of one's living situation and, to a lesser extent, objective health and the level of education attained. This means that the greater loneliness among older women was caused not only by the fact that they were more likely to remain partnerless following widowhood (see Model 2), but also by the fact that they were less satisfied with their living situation, and that they were less healthy and less educated.

Based on the size of the effects, the degree of loneliness among older adults was determined most strongly by their self-esteem, followed by whether or not they had a partner. Loneliness

was found to be strongest among older adults who had a low self-esteem or those who did not have a partner.

The most important finding of Model 3 was that, contrary to the social embeddedness variables, the non-social embeddedness variables included did not contribute to the relatively high degree of loneliness among older LGB adults. The effect of sexual orientation even increased somewhat when controlling for non-social embeddedness variables, from 0.09 in Model 2 to 0.11 in Model 3. Table 3.3 shows that this increase could be attributed almost entirely to the fact that the socioeconomic status of the older LGB adults was better than that of the older heterosexuals. The effect of sexual orientation, therefore, increased slightly following the introduction of the variable socioeconomic status. In other words, if the interviewed LGB's had had the same socioeconomic status as the heterosexual elderly, the initial difference in loneliness would have been even greater.

3.4 Discussion

This study examined the extent to which the higher levels of loneliness found among older LGB adults may be attributed to a lower degree of social embeddedness, as claimed in the literature. The assumptions underlying this conclusion is that aging LGB's are more likely than their heterosexual counterparts to be partnerless and childless, that they have smaller social networks and participate less actively in social life in the broader sense of the word. In an effort to find other explanations, we also addressed the effect of various non-social embeddedness variables on loneliness.

Our analyses were based on a comparison of two samples: a sample of older heterosexual adults taken from a large project about the living arrangements and social networks of the general older population in the Netherlands in 1992 (NESTOR/LSN) and a sample of older LGB adults belonging to a special project about the caring needs of and care facilities for LGB elders in 2002 (Gay Autumn). The sample of older LGB adults is the largest one in the Netherlands to date. However, unlike the sample of older heterosexuals, it is a convenience sample. It has a fundamental selection bias in that only those willing to self-identify as LGB became participants of the project. Moreover, due to the recruitment strategy, the sample is likely to be biased in favor of upper-middle-class, well-educated LGB adults and those who join

social, recreation and support groups. Although convenience samples are the norm in research among LGB's, it is a serious limitation of our study and, consequently, of generalizability. The participants may not be representative of older LGB adults in general.

Despite this socially favored sample of older homosexual adults, they were significantly lonelier than the older heterosexuals interviewed. The greater susceptibility to loneliness among the older LGB participants could be explained only in part by their weaker social embeddedness. The higher levels of loneliness was partially attributed to a number of less favorable social embeddedness variables–they were more likely to had experienced divorce, to be childless or to have less intensive contact with their children, they had significantly less frequent contact with other members of family and they were significantly less frequent churchgoers–but after controlling for this, a substantial part of the effect of sexual orientation on the degree of loneliness remained unexplained. Nor could the differences in loneliness between the older LGB and heterosexual participants be explained by other, non-social embeddedness factors, such as differences in health, living conditions, self-esteem and socioeconomic status. Fortunately, the older LGB adults interviewed were able in part to compensate for the absence of a partner, children and/or contact with other family members by the intensive contact they had with friends, and they were of comparatively high socioeconomic status. This was no doubt the result, in part, of the fact that the group of older LGB adults studied constitutes a convenience sample. If the LGB participants were less successful in creating "families of choice" and if their socioeconomic status was as high as the socioeconomic status of the heterosexual participants, the differences in loneliness between older LGB and heterosexual adults would have been even greater.

Does the higher level of loneliness among older LGB adults have to be explained by factors other than a weaker social embeddedness? In our opinion, it would be too early to answer this question with an unconditional "yes" at this point. Whereas the surveys used by us were the most suitable ones to use, they do not enable us to answer this question satisfactorily. First of all, with respect to the variable social relationships, we were only able to examine the frequency of contact with children, if any, and with other members of family, friends and neighbors. The effect of

sexual orientation on the degree of loneliness may well disappear, however, if the *quality* of relationships in people's private lives is also addressed. The assumption underlying this is that gay and lesbian elderly feel lonelier not so much because of a lack of contact, but rather because they–more so than their heterosexual peers–miss depth, intimacy, recognition and understanding in their existing relationships (Berger, 1992). Furthermore, minority stress (DiPlacido, 1998; Meyer, 1995, 2003) is another social embeddedness factor which may caused the higher level of loneliness among the older LGB adults. Today's generation of older LGB adults lived their early developmental years in a heterosexist and homophobic culture. They grew up with admonishments that being homosexual was a mental illness, sinful and immoral. They may have experienced marginalization, stigmatization, discrimination, victimization and other negative reactions from the outside world. To avoid these problems, they often have concealed part of their real personality. Future research should analyze the importance of both the quality of relationships in the private domain and minority stress in explaining differences in loneliness between homosexual and heterosexual older adults.

CHAPTER 4

LONELINESS AMONG OLDER LGB ADULTS: THE ROLE OF MINORITY STRESS

This chapter is based on the following publication:
Kuyper, L., & Fokkema, T. (2010). Loneliness among older lesbian, gay, and bisexual adults: The role of minority stress. *Archives of Sexual Behavior, 39,* 1117-1180.

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Abstract. Past research had consistently found that aging lesbians, gay men, and bisexuals (LGBs) are more apt to suffer from loneliness than their heterosexual counterparts. Data from the 2002 Gay Autumn survey (N = 122) were used to find out whether minority stress relates to higher levels of loneliness among older LGB adults in the Netherlands. We examined five minority stress factors: external objective stressful events, expectations of those events, internalized homonegativity, hiding and concealment of one's LGB identity, and ameliorating processes. The results showed that greater insight into loneliness among older LGB adults was obtained when minority stress factors were considered. Older LGB adults who had experienced negative reactions, as well as aging LGBs who expected those reactions, had the highest levels of loneliness. Having an LGB social network buffered against the impact of minority stress. These minority stress processes added to the variance already explained by general factors that influenced levels of loneliness (partner relationships, general social network, physical health, and self-esteem). Interventions aimed at decreasing feelings of loneliness among older LGBs should be focused on decreasing societal homonegativity (in order to decrease the amount of negative and prejudiced reactions) and on the enhancement of social activities for LGB elderly.

4.1 Introduction

Almost a quarter million older lesbian, gay, and bisexual (LGB) adults are living in the Netherlands (Fokkema & Kuyper, 2009). These numbers will certainly increase, as shifting demographics result in a larger aged population (Central Bureau of Statistics, 2008). Aging LGBs grew up in a time where homosexuality was still considered to be a sin or a sickness and there were only few possibilities to meet other LGBs (Keuzenkamp & Bos, 2007; Schuyf, 1996). This might make them relatively vulnerable for negative wellbeing outcomes. One important aspect of wellbeing that causes severe distress among the general elderly population is loneliness (Loving, Heffner, & Kiecolt-Glaser, 2006).

Qualitative studies as well as recent quantitative studies showed that older Dutch LGB adults were lonelier than their heterosexual counterparts (Fokkema & Kuyper, 2009; Schuyf, 1996; van de Meerendonk, Adriaensen, & Vanwesenbeeck, 2003). A study by Grossman, D'Augelli, and O'Connell (2001) among older LGBs in North America demonstrated that this is not solely a Dutch phenomenon. Furthermore, there is some empirical evidence that Dutch LGD elders are generally more prone to loneliness than older heterosexual adults in both emotional and social terms (van de Meerendonk et al., 2003). Emotional loneliness results from a lack of a close and intimate attachment to another person whereas social loneliness arises from the lack of a social network (Weiss, 1973).

From a preventive viewpoint, it is important to know why older LGB adults feel emotionally and socially lonelier than their heterosexual peers. On the one hand, it might be that LGB older adults have a more adverse position in general. For example, they might be less socially embedded (have less social contacts or have less often a steady partner), have more health problems, or differ in living conditions and socioeconomic status. On the other hand, it might be that LGB-specific factors are related to these higher levels of loneliness. In that case, minority stress (DiPlacido, 1998; Meyer, 1995, 2003) is at stake (Fokkema & Kuyper, 2009). Meyer (1995, 2003) stated that being an LGB person can be stressful and lead to adverse mental health outcomes. He identified five processes of minority stress: (1) external objective stressful events (like encountering discrimination or prejudice), (2) expectations of those events, (3) internalized homonegativity (internalizing the negative attitude that persists in society against

LGBs), (4) hiding and concealment of one's LGB identity, and (5) ameliorating factors (e.g., ingroup cohesiveness to counteract the stressful events from dominant culture).

Fokkema and Kuyper (2009) examined the first explanation for the differences in levels of loneliness between Dutch aging LGBs and their heterosexual peers. They studied whether these differences in loneliness could be attributed to differences in social embeddedness (e.g., having a partner, having frequent contact with other people or church visits) or other non-social factors (health, living conditions, self-esteem, and socioeconomic status). Although both types of factors were strong predictors, a substantial percentage of the variance in loneliness remained unexplained. It therefore seemed plausible that LGB-specific factors (like minority stressors) might also contribute to higher levels of loneliness among older LGBs.

There are several reasons why older LGB adults experience minority stress. First of all, it is likely that older LGBs had experienced *external objective stressful events* like discrimination, negative attitudes, and victimization. When they were younger, they were discriminated against by institutions and laws. LGB rights were not legally protected (Keuzenkamp & Bos, 2007) and homosexuality was still considered to be a mental illness by the American Psychiatric Association and the American Psychological Association (Conger, 1975). Moreover, the attitude of the general population toward homosexuality was rather negative. This also applied to the Netherlands, despite its long-standing image of being a tolerant, gay-friendly country. In 1970, for example, a population survey showed that a quarter of the Dutch agreed that strong action should be taken against gays and 10% were convinced that they should be removed from society (Keuzenkamp & Bos, 2007). Currently, attitudes had become more positive in the Netherlands, but this holds especially true among the younger age cohorts (Adolfsen & Keuzenkamp, 2006; Dejowski, 1992; van de Meerendonk & Scheepers, 2004). As a result, older LGB adults are still likely to be surrounded by peers from older cohorts who hold negative views about homosexuality.

Besides actual experiences with discrimination and victimization due to prejudice, older LGB adults could also *expect negative events*. Meyer (2003) argued that LGB people learn to expect and anticipate negative reactions from heterosexuals. Therefore, LGBs have to be "on guard" and maintain vigilance.

Since older Dutch LGB adults grew up in a hostile and homonegative environment, it seems likely that they expect negative events. Dutch and Canadian studies on the use of health services indeed found that older LGBs often mistrusted the health and social service network and expected negative reactions from caregivers (Brotman, Ryan, & Cormier, 2003; van de Meerendonk et al., 2003).

Internalized homophobia is another minority stress process. Internalized homophobia is a set of negative attitudes and affects of LGBs toward homosexuality in other persons and toward homosexual features in themselves (Shidlo, 1994). Several American studies found a negative correlation between age and internalized homonegativity, i.e. those who were older held a more negative view towards their own sexual orientation (Grossman et al., 2001; Otis & Skinner, 1996). Van de Meerendonk et al. (2003) showed in an older Dutch LGB sample that mainly men, those older than 75 years, and those who did not live in Amsterdam experienced their own homosexuality as problematic.

When one is experiencing negative or harmful events or expecting rejection and discrimination, one may want to conceal one's true identity in order to avoid these reactions. Meyer (2003) defined this *hiding or concealment* as another minority stress factor. Schuyf (1996) interviewed 60 older Dutch LGBs (aged 55 years and older). Many of the participants reported that most of the people in their social network "knew" they were gay, but it was not possible for them to speak about it in an overt way. Some of the participants never told anyone about their sexual orientation. These findings were supported by several international studies (Bennett & Thompson, 1980; Brotman et al., 2003; Cruz, 2003; D'Augelli & Grossman, 2001) showing that large percentages of older LGBs had hidden their sexual orientation from parents, co-workers, family members or friends.

The last factor mentioned by Meyer (2003) is an ameliorating factor. Resources like *ingroup cohesiveness* could counteract the impact of minority stress. Having LGB friends can create a social context where one is not stigmatized or different from the dominant culture. One does not have to, or at least is less likely to have to, maintain vigilance or expect negative reactions about one's sexual identity when being among members of the same minority group. Older Dutch LGBs seemed to be using this coping strategy: more than half of the men (60%) and 40% of

the women of Schuyfs' (1996) interview study were currently active in the gay scene. Van de Meerendonk et al. (2003) also reported active participation in the gay scene among their older LGB participants, as did several international studies (Bennett & Tompson, 1980; Cruz, 2003; Quam & Whitford, 1992).

In this study, we examined to what extent differences in loneliness among older LGB adults were attributable to minority stress processes. The research questions we posed were: (1) Can minority stress processes add to explaining different levels of loneliness among older LGB adults beyond social embeddedness variables and non-social variables? and (2) Which specific minority stress processes are related to differences in levels of loneliness? We hypothesized that a non-negligible share of older LGB adults were experiencing monitory stress, and these minority stressors in turn had a net negative impact on their levels of loneliness. Ameliorating factors like ingroup cohesiveness were hypothesized to counteract the negative impact of these minority stress factors. Given the distinct underlying causes of emotional and social loneliness, the two dimensions were also considered separately.

4.2 Method

4.2.1 Participants

Participants were 161 self-identified LGBs between the ages of 55 and 85. The mean age of the participants was 64.6 years (*SD* = 7.25). Somewhat over 40% of the participants were women. The majority identified themselves as homosexual (78.1%). Because of the small sample size, bisexual participants were grouped together with the gay and lesbian participants. Due to missing data, 122 participants of the original sample of 161 older LGBs were included in the final analyses[5].

4.2.2 Procedure

Data were taken from the 2002 Gay Autumn survey (van de Meerendonk et al., 2003). The aim of this project was to explore the caring needs of and caring facilities for LGB elders. For this

[5] The relatively high number of missing cases was due to the large amount of missing values on the variable "LGB social network" (see Table 4.1). It is unclear whether those who did not answer this network question had either no LGB relations or skipped this question. Hence, giving those cases an average score was not an option

purpose, participants completed a written questionnaire in the autumn of 2002. The convenience sample was drawn from different sources. Participants were recruited through announcements in a newsletter and on a website of organizations for seniors (ANBO, Seniorweb), at gatherings for aging gays and lesbians, and through the networks of the researchers themselves. People could sign up for participation if they were interested. The questionnaire was completed by 77% of those who signed up. Participation was voluntary and there were no incentives. Anonymity was guaranteed.

4.2.3 Measures

Loneliness

Loneliness was measured using the Loneliness Scale developed by de Jong Gierveld and Kamphuis (1985). This scale consisted of 11 items in which the word "loneliness" did not feature. The five positively formulated items expressed feelings of social embeddedness, a sense of belonging. For example: "There are plenty of people I can turn to in times of need." The six negatively formulated items expressed feelings of desolation and of missing an attachment relationship. An example of such an item was: "I miss having a really close friend." Disagreeing (the answers "no" and "more or less") with the five positively formulated items and agreeing (the answers "yes" and "more or less") with the six negatively formulated items were indicative of feelings of loneliness and assigned the code 1. As a result, the score on the scale ranged from 0 to 11 with a reliability of 0.94 (Cronbach's alpha). This scale was referred to as *general loneliness*. A score of three or higher was indicative of moderate loneliness; scores above nine indicate strong feelings of loneliness (van Tilburg & de Jong Gierveld, 1999). In the same way, two separate scales were constructed for *emotional loneliness* (the six negatively formulated items, Cronbach's alpha = 0.94) and *social loneliness* (the five positively formulated items, Cronbach's alpha = 0.89)[6].

[6] When constructing their loneliness scale, de Jong Gierveld and Kamphuis did not make a distinction between social and emotional loneliness since it was their intention to develop a unidimensional measure of the severity of feelings of loneliness. Recent work, however, demonstrated that a distinction of two subscales is legitimized despite the fact that the emotional loneliness sub-scale coincides with the negatively formulated and the social sub-scale with the positively formulated items (Dykstra & Fokkema, 2007; Fokkema & Knipscheer, 2007; van Baarsen,

Social Embeddedness

Two measures of social embeddedness were included: partner status and general social network.

Partner status. The survey contained questions about the current partner relationship status and living situation. Answers from these questions were combined and coded as a set of dummy variables. This set distinguished between LGBs without a steady partner (the reference group), those who cohabited, and participants who had a Living-Apart-Together relationship (relationships between non-cohabiting partners).

General social network. Participants were asked whether they had regular contact (at least once a month) with four types of persons: children, other family members, friends, and neighbors and, if so, with how many. Contact was interpreted broadly and included home visits, telephone conversations, and visits outside their own homes. The number of social relationships was added across the categories. The number of contacts exceeding 20 were fixed at 20.

Non-Social Variables

Three non-social variables were included: physical health, self-esteem, and education.

Physical health. The scale measuring health related to functional capacity, i.e., the extent to which the participant was able to carry out six activities of daily living including climbing and descending stairs and getting dressed. Answers were given on a five-point scale (1 = not possible at all; 5 = without any difficulty). Code 1 was assigned if participants had at least some difficulty with the activity. As a result, the scale score ranged from 0 to 6 (0 = no limitations; 6 = limitations with all activities). Cronbach's alpha was 0.87.

Self-esteem. Self-esteem was measured using the short version of a scale developed by Brinkman (1977)[7]. The following four statements were presented to the participants: (1) I feel quite secure about myself; (2) I have a positive view of myself; (3) Sometimes I feel useless; and (4) Generally, I am pleased with

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Snijders, Smit, & van Duijn, 2001; van Tilburg, Havens, & de Jong Gierveld, 2004). That is why we did not only present the total score on the loneliness scale, but also made a distinction between emotional loneliness (maximum score 6) and social loneliness (maximum score 5).

[7] This scale is comparable to the Rosenberg Self-esteem scale (1965) and has been used in various studies in the Netherlands (e.g., Dykstra, 1995; Martina & Stevens, 2006; van Baarsen et al., 2001).

myself. Answers were given on a five-point scale (1 = totally disagree; 5 = totally agree). Item 3 was coded in reverse and participants' mean scores were calculated. A higher score on the scale was indicative of higher self-esteem (Cronbach's alpha = 0.79).

Education. Participants' levels of education were determined by asking them to state the highest level of education they had completed with a qualification or diploma. Answers were recoded into the number of years someone had been to school, following the shortest route, ranging from 0 to 18 years of education.

Minority Stress

The five aspects of minority stress described by Meyer (2003) were measured. External, objective stressful events were measured by the number of negative experiences; expectations of negative reactions were measured by the expectations of prejudiced reactions by caregivers; internalized homonegativity was measured by a scale that gauged internalized homonegativity; hiding and concealment of one's LGB identity was measured by one's openness about one's feelings in general and concealment of one's LGB identity toward the caregivers; and finally, the ameliorating factor ingroup cohesiveness was operationalized as the number of LGB relationships (LGB social network).

Negative experiences. Participants were asked whether they had negative experiences in seven different areas due to their sexual orientation: in their living situation, during activities they undertook that were not for LGBs, with regard to their housing, and with caregivers (divided in four categories: GP, home care, nursing services, and psychologists/social workers). The question about the caregivers were answered using a 6-point scale (1 = only positive experiences; 5 = only negative experiences; 6 = not applicable). Participants who answered "4" or "5" were coded as having had a problem in this area. The other four questions were dichotomous items, and participants who answered "yes" (= 1) were coded as having a problem in this area. Answers were summed up across these seven categories. The scale ranged from 0 to 7. The higher the score, the more areas in which the participant had had negative experiences.

Expectations of prejudiced reactions. Six questions were posed on potential negative consequences of revealing an LGB identity to caregivers (e.g., "Caregivers will react with prejudice on my sexual orientation"). Answers were given on a five-point scale (1 = totally

agree; 5 = totally disagree) and mean scores were calculated. A higher score was indicative of more negative expectancies (Cronbach's alpha = 0.84).

Internalized homonegativity. The scale for internalized homonegativity measured whether participants hold negative attitudes toward their own sexual orientation. It consisted of four items (e.g., "I wish I weren't gay"). Answers were given on a five-point scale (1 = totally agree; 5 = totally disagree). A higher score indicated more internalized homonegativity (Cronbach's alpha = 0.71).

Openness about LGB identity. Participants reacted to five statements about personal openness of LGB identities on a five-point scale (1 = totally agree, 5 = totally disagree). An example of a statement was: "People with whom I interact on a daily basis know that I am attracted to same-sex partners." A higher mean score indicated more openness (Cronbach's alpha = 0.72).

Concealment of LGB identity. The scale measuring concealment gauged whether participants actively tried to hide their sexual orientation from their caregiver. The scale consisted of seven items (e.g., "When a caregiver assumes I'm gay, I'd oppose it immediately"). Answers were given on a five-point scale (1 = totally agree; 5 = totally disagree). A higher score indicated more active concealment of an LGB identity with regard to caregivers (Cronbach's alpha = 0.84).

LGB social network. Participants were asked whether they had regular contact (at least once a month) with gay men or lesbian women and if so, with how many. Contact was interpreted broadly and included home visits, telephone conversations, and visits outside their own homes. The maximum number of contacts was fixed at 20.

4.3 Results

To provide some background information on non-social conditions, the degree of social embeddeness, minority stress, and loneliness, all mean scores and standard deviations were calculated separately for men and women. Table 4.1 presents the results. The only gender differences were that women were younger (t (159) = 3.15, p = .00 (two-tailed)) and had less internalized homonegativity (t (150.20) = 3.94, p = .00 (two-tailed)).

Table 4.1 Descriptive statistics

	Men		Women		*p*	*N*
	M	*SD*	*M*	*SD*		
Control variable						
Age[a]	66.0	7.51	62.5	6.40	.00	162
Social embeddedness						
Type of partner relation						
Cohabiting	0.36	0.48	0.44	0.50	ns	162
Living-Apart-Together	0.25	0.43	0.18	0.38	ns	162
General social network[b]	11.6	6.67	13.10	6.17	ns	162
Non-social variables						
Physical health[c]	1.01	1.62	0.78	1.48	ns	151
Self-esteem[d]	3.79	0.77	3.91	0.73	ns	157
Education[e]	12.73	3.28	13.68	3.53	ns	162
Minority stress						
Negative experiences[f]	.59	.86	.46	.82	ns	159
Expectations of prejudiced reactions[d]	1.76	.88	1.90	.85	ns	158
Internalized homonegativity[d]	1.76	.88	1.33	.51	.00	159
Openness about LGB identity[d]	3.82	.82	3.94	.80	ns	159
Concealment of LGB identity[d]	1.43	.55	1.37	.64	ns	160
LGB social network[b]	10.91	7.49	12.19	7.55	ns	132
Loneliness						
Loneliness[g]	4.07	3.87	3.14	3.53	ns	153
Emotional loneliness[c]	2.20	2.38	1.56	2.16	ns	153
Social loneliness[h]	1.91	1.83	1.58	1.76	ns	153

[a] In years; range 55-85
[b] Range 0-20
[c] Range 0-6
[d] Range 1-5
[e] In number of years; range 0-18
[f] Range 0-7
[g] Range 0-11
[h] Range 0-5

Correlations among the different minority stress processes were calculated to examine whether the measures included in the analyses were indeed separate minority stress factors (see Table 4.2). Due to missing data, 128 participants of the original sample of 161 older LGBs were included in the correlational analyses.[1] Most of the minority stress processes were (highly) correlated. For example, an expected high correlation was found between concealment of LGB identity toward caregivers and general openness about LGB identity: those who were generally open about their sexual orientation concealed this orientation less with caregivers (r = -.51). Since none of the intercorrelations among the different minority stress processes were above .51, we assumed that the minority stress measures were indeed separate constructs.

Table 4.2 Correlations among different minority stress factors (n = 128)

	1	2	3	4	5
1 Experiences of prejudice events					
2 Expectations of prejudiced reaction	.36***				
3 Internalized homonegativity	.10	.21*			
4 General openness regarding LGB identity	-.05	-.30***	-.50***		
5 Concealment of LGB identity	-.18*	.40***	.36***	-.51***	
6 LGB social network	.06	-.02	-.22*	.36***	-.28**

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

A stepwise multiple regression was conducted to examine the relative influence of social embeddedness, non-social variables, and minority stress processes on the levels of loneliness (general, emotional, and social loneliness). Due to missing data, 122 participants of the original sample of 161 older LGBs were included in the current analyses.[1] Table 4.3 shows the results of these analyses. The control variables (age and gender), the social embeddedness variables (type of partner relation and general social network), and the non-social variables (physical health, self-esteem, and education) entered the models in the first step (Model 1, 3, and 5, respectively).

Table 4.3 Determinants of the degree of loneliness among LGB elderly (standardized regression coefficients) (n = 122)

	Loneliness		Emotional loneliness		Social loneliness	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Control variables						
Age	-.17	.00	-.04	.00	.03	.02
Man	.08	.07	.11	.07	.05	.06
Social embedddedness						
Type of partner relation (*ref.* no partner)						
Cohabiting	-.34***	-.31***	-.33***	-.30***	-.29**	-.24**
Living-Apart-Together	-.29**	-.20**	-.26**	-.17*	-.27**	-.21*
General social network	-.30***	-.18*	-.25**	-.14	-.29**	-.21*
Non-social embeddedness factors						
Physical health	.22**	.21**	.21*	.18*	.18*	.19*
Self-esteem	-.30***	-.31***	-.29***	-.31***	-.25**	-.26**
Education	-.03	.01	.00	.03	-.03	.00
Minority stress factors						
Experiences of prejudice events		.22**		.30***		.07
Expectations of rejection		.17*		.13		.18
Internalized homonegativity		-.02		.01		-.07
General openness LGB-identity		-.11		-.05		-.18
Concealment LGB-identity		-.13		-.12		-.12
LGB social network		-.23**		-.23**		-.19*
R^2 (adjusted)	.41	.52	.33	.45	.33	.39

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

The minority stress variables (experiences of prejudice events, expectations of prejudiced reactions, internalized homonegativity, general openness about LGB-identity, concealment of LGB-identity, and LGB social network) were introduced in the second step of the analyses (Model 2, 4, and 6, respectively).

Model 1 showed that age, gender, and education were not related to the different levels of general loneliness among older LGB adults. Social embeddedness and the other non-social variables did influence these levels. Older LGB adults who had a steady partner-whether living together or not- felt significantly less lonely than single older LGB adults. Moreover, those who had an extensive general social network were less lonely. With regard to the non-social variables, those who had good physical health and those with high levels of self-esteem experienced fewer feelings of loneliness.The minority stress processes were introduced in Model 2. These factors added strongly to the explained variance of general loneliness (increasing from 41% to 52%). The social embeddedness and non-social factors that made a significant contribution to Model 1 also remained significant in Model 2. However, the influence of a general social network decreased substantially (the standardized beta dropped from -.30 to -.18). In addition to these factors, three minority stress factors contributed significantly to the model. Those older LGB adults who had experienced negative reactions or discrimination, on the basis of their sexual orientation reported more feelings of loneliness. In addition, those who expected negative reactions from caregivers felt lonelier. One's LGB social network seemed to buffer against the negative impact of minority stress factors: those with more gay friends or acquaintances experienced lower levels of loneliness. Comparing the standardized coefficients, it appeared that loneliness was better buffered by a LGB social network than by the general social network[8].

When examining emotional and social loneliness separately, the first step of the analyses yielded approximately the same results. Compared to the first model of the analysis of general loneliness (Model 1), the models of emotional (Model 3) and social loneliness (Model 5) consisted of the same significant social

[8] Note that the contribution of the LGB social network added to the explained level of variance beyond the variance already explained by the general social network. The correlation between these two variables was 0.28.

embeddedness and non-social predictors (type of relationship, general social network, physical health, and self-esteem).

A different picture arose when looking at the next step of the models in which the minority stress processes were introduced (Models 4 and 6). The minority stress processes added strongly to the explained variance of emotional loneliness (increasing from 33% to 45%). Model 4 showed that emotional loneliness was predicted by type of partner relation, physical health, self-esteem, and two minority stress factors. Contrary to the model of general loneliness (Model 2), the expectation of prejudiced reactions and the general social network made no unique contribution to emotional loneliness. The only social embeddedness factor that influenced the levels of emotional loneliness was whether one had a steady partner or not: single older LGB adults were feeling more like there was something missing in their relationships or experienced a sense of emptiness in their lives than those who had a steady partner. These loneliness feelings were also related to non-social factors. Participants with poorer physical health and lower self-esteem experienced higher levels of emotional loneliness. The two minority stress processes that were related to these types of loneliness feelings were the experience of prejudice events and LGB social network. Those who experienced negative reactions or consequences of their homosexuality felt more emotionally lonely, while those with more LGB friends or acquaintances felt less like something important is missing in their relationships. When looking at the standardized beta coefficients, it can be concluded that levels of emotional loneliness were primarily influenced by whether one lived together with a partner, self-esteem, and the experience of prejudice events.

The minority stress processes also contributed, although to a lesser extent, to the explained variance of social loneliness (increasing from 33% to 39%). This type of loneliness was explained by social embeddedness variables (type of relationship and general social network), non-social variables (physical health and self-esteem), and one minority stress process: LGB social network. Hence, the difference in the model of general loneliness (Model 2) was that neither the experience of prejudice events nor expectations of these events significantly contributed to the model. Once again, single, older LGB adults, those with fewer social contacts, those with poorer physical health, and those with lower levels of self-esteem experienced more feelings of social

loneliness. The ameliorating factor LGB social network buffered against these feelings. Those with more LGB friends or acquaintances were experiencing lower levels of social loneliness. Standardized beta coefficients indicated that the most important predictors of social loneliness were self-esteem, type of relationship, and social network.

4.4 Discussion

The current study was conducted to answer two questions: (1) Can minority stress processes add to explaining different levels of loneliness among older LGB adults beyond social embeddedness variables and non-social variables? and (2) Which specific minority stress processes are related to differences in levels of loneliness? The first question was confirmed by our data: minority stress processes added strongly to the explained variance of models that predicted loneliness and in which social embeddedness and non-social variables were already incorporated. Which minority stress processes made a significant, unique contribution to the model depended on the type of loneliness. For general loneliness (the overall measure of loneliness), three minority stressors contributed to the model: experiences with prejudice events, expectations of prejudice reactions, and LGB network. The minority stress factors that played a role in predicting emotional loneliness were the experience of prejudice events and LGB network. One minority stress factor was related to social loneliness: those older LGB adults who had a larger LGB network were feeling less lonely socially. The minority stress processes hiding or concealment and internalized homonegativity were not related to feelings of loneliness.

The positive relationship between loneliness and minority stress is in line with outcomes of other studies on social and health-related issues (e.g., mental health, relationship quality, sexual problems, domestic violence, HIV risk behavior, substance use, job stress, body image concerns), showing that minority stress is a useful framework for explaining different kinds of problems among LGBs (Balsam & Szymanski, 2005; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Kimmel & Mahalik, 2005; Meyer, 1995, 2003; Otis, Rostosky, Riggle, & Hamrin, 2006; Waldo, 1999; Zamboni & Crawford, 2007). Furthermore, those specific minority stress factors that were strong predictors of loneliness (negative experiences and LGB

social network) were also important determinants in case of other health-related problems. For example, Herek, Gillis, and Cogan (1999) found that lesbian and gay hate-crime survivors reported more symptoms of mental health problems and a study of Mays and Cochran (2001) demonstrated that high levels of discrimination among LGBs had a negative effect on the quality of life and was related to psychiatric morbidity. Silverschanz, Cortina, Konik, and Magley (2008) showed that even more subtle forms of heterosexism had a negative effect on psychological and academic wellbeing among American university students. Not only at universities, but also heterosexism experienced at the workplace was associated with adverse psychological, health and job-related outcomes (Waldo, 1999). Furthermore, Ueno (2005) demonstrated the protective influence of LGB networks at school: friendships among sexual minority adolescents reduced psychological distress. These studies show that anti-gay experiences and LGB social networks are not only important when explaining levels of loneliness among aging LGB, but these factors are important for other areas and stages in the lives of LGBs as well.

From this perspective, it seems promising that the current Dutch minister responsible for LGB issues has taken social acceptance of LGBs as the main focus of his policy (Ministry of Education, Culture and Science, 2007). If homosexuality will be more accepted by society and public statements against homosexuality will be less tolerated, the prevalence of antigay harassment and its negative health consequences (e.g., loneliness among aging LGB adults) might decrease. However, interventions aimed at decreasing levels of loneliness among older LGBs should also take other minority stress processes into account. For example, since a LGB social network buffered against the negative impact of minority stress, promoting contacts with other LGBs could reduce feelings of loneliness. This can be done by organizing activities aimed at the enhancement of these contacts, like support groups, buddy projects or evenings in cafés or societies. In addition, since not only the experience but also the expectation of prejudice events was related to high levels of loneliness, it is advisable that professionals in the health and social sector receive training about sensitive issues like aging and sexual diversity in order to take a more neutral or positive attitude to LGB elders. This change in attitude might also lower negative expectations

older LGB adults often have about the reactions from caregivers on their sexual orientation.

The current study had some major limitations. First of all, a convenience sample was used. Participants were recruited through different social, recreational, and support groups. Therefore, the participants of the study were probably more socially and homo-socially integrated and hence, their average number of general and LGB network members might have been higher compared to the general older LGB population. Furthermore, it is likely that the participants were biased toward good health status; those experiencing physical and mental health problems are less able to participate in social, recreational and support groups and to have completed the questionnaire. The sample was probably also biased in favor of native Dutch LGB adults of higher educational level. Negative experiences or prejudices could be a substantial problem for LGBs with a different ethnic background, like racism in a native LGB community and homonegativity in their ethnic community (Meyer, 2003). Unfortunately, there are no reliable Dutch figures about the negative attitudes towards ethnic minorities held by native LGBs. Dutch studies did found that Moroccan and Turkish individuals in the Netherlands hold a relatively negative attitude towards homosexuality (Keuzenkamp & Bos, 2007; Vanwesenbeeck & Bakker, 2006).

Secondly, we only examined the frequency of LGB social contacts, so the quality of the networks was not taken into account. In addition, concealment and expectancies of prejudice events were measured with regard to caregivers. It would have been better if these measures were aimed at one's concealment of his or her sexual orientation and expectancies of negative events in general. While specific concealment towards caregivers was not related to feelings of loneliness, concealing one's sexual orientation towards important people in one's life (e.g., family or friends) might contribute to these feelings.

Finally, the sample was too small to examine differences in the impact of minority stress on loneliness between men and women and between homo- and bisexuals. A Dutch population study on sexual health showed that minority stress differed among these groups in magnitude and nature (Bakker & Vanwesenbeeck, 2006; Kuyper, 2006). For example, bisexual individuals had higher levels of internalized homonegativity and concealment of one's sexual identity than homosexual participants did, while

homosexual persons had more often encountered negative reactions on their same-sex attractions. Men reported higher levels of internalized homonegativity than women, which is in line with our current results among aging LGB adults.

Despite these drawbacks, our study contributed to present knowledge of the problems, and their underlying mechanisms, faced by older LGBs. We hope that our work will inspire colleague researchers to investigate the role of minority stress in other areas, between subpopulations (e.g., native versus non-native LGBs, bisexuals versus homosexuals) and in other stages of life. With regard to the latter, the impact of minority stress on loneliness among LGB youth is an interesting example: despite the fact the attitudes towards homosexuality are becoming more positive (Adolfsen & Keuzenkamp, 2006; Dejowski, 1992; Hicks & Lee, 2006; van de Meerendonk & Scheepers, 2004; Yang, 1997), there are indications that young LGB adults experience higher levels of loneliness than their heterosexual peers (Hegna & Rossow, 2007; Radkowsky & Siegel, 1997; Rivers & Noret, 2008). Whether these feelings can be attributed to a more adversarial position in general (e.g., small general social network, low self-esteem), minority stress (e.g., experiences with discrimination or small LGB social network) or both, should be investigated.

CHAPTER 5

THE RELEVANCE OF MINORITY STRESS FOR EXPLAINING THE WELLBEING OF TODAY'S LGB YOUTH

This chapter is based on the following publication:
Kuyper, L., & de Wit, J. (2011). The relevance of minority stress for explaining the wellbeing of today's LGB youth. Manuscript in review.

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The study used data that was collected in the study "Laat Je Nu Horen!" [Speak up now!] of Kuyper, de Wit, Adam, Woertman, and van Berlo (2010). The study was funded by ZonMw.

CHAPTER 5

Abstract. Questions can be posed regarding the usefulness of minority stress concepts for explaining the wellbeing of the present generation of lesbian, gay, and bisexual (LGB) young people growing up in a relative tolerant society. The current study examined minority stress factors among 614 Dutch LGB individuals between 15 and 25 years old. The study also examined whether these minority stress factors (i.e., experiencing negative reactions, openness about one's LGB identity, internalized homonegativity, and LGB community involvement) were related to substance use, social wellbeing, and sexual health. Sex differences and sexual orientation differences were taken in account. It was found that LGB young people still experienced minority stress, especially bisexual young men. Furthermore, minority stressors were related to substance use, social wellbeing, and sexual health. The relationship between minority stressors and wellbeing was the similar among women and men, and among lesbian/gay and bisexual youth.

5.1 Introduction

Numerous studies have demonstrated health differences between lesbian, gay, and bisexual (LGB) youth and their heterosexual peers. Importantly, LGB youth were found to be at higher risk for suicidality (Almeida, Johnson, Corliss, Molnar, & Azrael, 2009; Fergusson, Horwood, Ridder, & Beautrais, 2005; Russell & Joyner, 2001; Zhao, Montoro, Igartua, & Thombs, 2010), mental health problems (Almeida et al., 2009; Fergusson et al., 2005; Russell & Joyner, 2001; Udry & Chantala, 2002; Ueno, 2005; Zhao et al, 2010), substance use (see for recent meta-analyses Marshal et al., 2008), loneliness or problems with social integration (Hegna & Rossow, 2007; Rivers & Noret, 2008; Udry & Chantala, 2002; Ueno, 2005; Williams, Connolly, Pepler, & Craig, 2005), and problems in the area of sexual health, including sexual or partner victimization (Barter, McCarry, Berridge, & Evans, 2009; Freedner, Freed, Yang, & Austin, 2002; Garofalo, Wolf, Kessel, Palfrey, & DuRant, 1998; Saewyc et al., 2006; Zhao et al., 2010). These health differences were found across a wide range of study designs and research populations.

With LGB youth being at higher risk for many different health problems, it is important to look beyond differences in prevalence of health problems, and study potential risk and protective factors that may explain differences in health between LGB and heterosexual youth. A promising approach for explaining the adversarial health status of LGB people is Meyer's minority stress model (Meyer, 1995; 2003; 2007). According to this model, LGB individuals encounter several unique stressors in addition to the stressors experienced by all individuals (heterosexual and LGB). These unique LGB stressors have a negative impact on the health of LGB individuals. Meyer identified five minority stress factors: experiencing discrimination and victimization, expecting to be victimized or discriminated, hiding or concealing one's sexual orientation, and internalizing homonegativity (i.e. the internalization of society's negative attitude towards homosexuality). Having an LGB network is a protective factor, which can buffer against the negative consequences of minority stress.

Several empirical studies have shown that minority stress factors are indeed related to the (mental) health of LGB youth. A number of studies showed that experiencing discrimination or homophobic bullying is related to mental health problems and

substance use among LGB youth (Almeida et al., 2009; Birkett et al., 2009; Bontempo & D'Augelli, 2002; D'Augelli, Pilkington, & Herschberger, 2002). Rosario, Rotheram-Borus, and Reid (1997) found, in addition to a relationship with being ridiculed, a relationship between disclosure of sexual identity and higher levels of emotional distress and drug use. Ueno (2005) focused on the influence of LGB networks and showed that having LGB friends was related to higher levels of wellbeing among LGB youth.

However, questions can be posed regarding the usefulness of the minority stress model for the current generation of LGB youth, especially for those living in relative tolerant countries with legislation actively counteracting discrimination on grounds of sexual orientation. As Meyer, Dietrich and Schwartz (2008) noted, today's young LGB individuals may be less at risk for experiencing minority stress, because they grow up in a less homonegative environment. These authors argue that the current liberalization of societal attitudes towards homosexuality might lead to a decrease in minority stress among young LGB cohorts. A relatively tolerant environment and less inequality may contribute to less victimization and discrimination, less anticipation of victimization and discrimination, more openness about one's LGB identity, and lower levels of internalized homonegativity. In addition, especially with increased Internet access, getting in touch with other LGBs has become easier. Empirical support for the claim of lower levels of minority stress can partly be found in a study by Floyd and Bakeman (2006), who showed that increased social acceptance of homosexuality during the last decade of the 20th century indeed resulted in greater openness about one's LGB identity. Furthermore, a study by Grov, Bimbi, Nanín, and Parsons (2006) showed that LGBs in younger age cohorts came out at an earlier age.

5.1.1 Current research questions

The current study set out to examine whether the minority stress model provides a useful conceptualization for explaining a diverse range of wellbeing issues among young LGB people currently growing up in The Netherlands, which is known for a relatively tolerant attitude towards homosexuality and legislation prohibiting discrimination on grounds of sexual orientation (European Union Agency for Fundamental Rights, 2009a; European Union Agency for Fundamental Rights, 2009b; Keuzenkamp & Bos, 2007;

Štulhofer & Rimac, 2009). In addition, the current study aims to examine whether the influence of minority stress factors differs between women and men, and between lesbian/gay and bisexual youth. These groups are often clustered together in analyses, even though some findings indicate that minority stress may not have the same consequences for young women and men, and for lesbian/gay and bisexual youth (e.g., Almeida et al., 2009; Bontempo & D'Augelli, 2002). The specific research questions guiding the current study were: 1) To what extent do LGB youth who grow up in a relatively tolerant society experience minority stress, 2) Are there differences in the experienced levels of minority stress with regard to sex and sexual orientation, 3) Are minority stress factors related to substance use (alcohol and drug use), social wellbeing (loneliness and relationship with one's parents), and sexual health (sexual self-esteem and sexual assertiveness) of LGB youth and, 4) Does the relationship between minority stress and substance use, social wellbeing, and sexual health differ between young women and men, and between lesbian/gay and bisexual youth?

5.2 Method

5.2.1 Procedure

Data of a large-scale sexuality study among sexually active young people were used (Kuyper, de Wit, Adam, Woertman, & van Berlo, 2010). Young people were asked to join the panel of the study and fill out four questionnaires. For the current study, only the data of the first questionnaire was used. Participants were recruited through advertisements in youth media (e.g., websites, mailing lists, TV programs, and magazines), including youth media focused on LGBs, and via electronic blackboards of several vocational schools. The ads invited sexually active young people to visit the website of the study, called "Speak up now!" (www.laatjenuhoren.nl) and fill out an online questionnaire regarding their sexual experiences and opinions on sexual matters. In addition to the questionnaire, the website also contained background information about the survey, contact information of the research team and a list of care providers with whom the participants could get in touch if they experienced a need for help due to their experiences or their research participation. Participants were asked for active informed consent. Data were stored on a secured server. Filling out the questionnaire took

about 25 minutes. Ten iPod nano's and eight gift certificates of 100 euro each were raffled among the participants. The study was judged exempt of formal medical-ethical approval under prevailing regulation in The Netherlands.

5.2.2 Participants

For the current study, only the data of participants who completed the first questionnaire and self-identified as lesbian/gay or bisexual were selected ("How would you describe yourself? We would like to know how you feel about your sexuality. This can be something else than what you tell to other people: a) homosexual/lesbian/gay, b) bisexual, c) heterosexual or d) other"). This sample consisted of 614 sexually experienced LGB participants (the total number of young people completing the first questionnaire was 4,585). More lesbian and bisexual women (68.2%) than gay or bisexual men (31.8%) participated, and the sample consisted of slightly less lesbian/gay (43.6%) than bisexual (56.4%) participants. The mean age of the participants was 19.10 years (*SD* = 2.93); all participants were between 14 and 26 years old. Half of the participants was low educated (51.1%). Young people from non-western ethnic backgrounds made up 14.0% of the sample. A quarter of the participants lived in metropolitan areas (24.8%), 67.1% lived in urban areas and the remainder of the participants (8.1%) lived in rural areas.

5.2.3 Measures

Wellbeing

Substance use

Alcohol use was measured by two items referring to the number of drinks participants typically consumed during a date and when going out to a bar or party (1 = none; 5 = 4 or more drinks). A mean score was calculated and a higher score indicated more drinks (Cronbach's alpha = .77).

Marijuana use indicated whether participants had used marijuana in the past 12 months (1 = no, 2 = yes).

Social wellbeing

Loneliness was measured by eight items, of which four were taken from a study by De Graaf, Meijer, Poelman, and Vanwesenbeeck (2005), and four were taken from a study by L'Engle, Brown, and Kenneavy (2006). A mean score was calculated and measured whether participants felt alone (e.g., "I often feel lonely", "I'm

important to my friends"). Answers were given on a 5-point scale (1 = totally disagree, 5 = totally agree). Several items were recoded, so that a higher score indicated more loneliness (Cronbach's alpha = .76).

Relationship with parents was assessed by eight items taken from a scale developed by Gerrits, Dekovic, Groenendaal, and Noom (1996), which measured whether participants view their parent(s) or caretaker(s) as responsive to their needs (e.g., "I can talk to them about everything"), and displaying affection (e.g., "They often let me know that they love me"). Answers were given on a 5-point scale (1 = totally disagree, 5 = totally agree). A mean score was calculated and a higher score indicated a better relationship (Cronbach's alpha .93).

Sexual health

Sexual self-esteem was measured by a sex-neutral version of the scale developed by O'Sullivan, Meyer-Bahlburg, and McKeague (2006) measuring whether young people are satisfied with themselves as a sexual being (e.g., "I am confident about my ability to attract a sexual partner" or "People have found me sexually satisfying"). Answers were given on a 5-point scale (1 = totally disagree, 5 = totally agree), a mean score was calculated and higher scores reflected more sexual self-esteem (Cronbach's alpha = .83).

Sexual assertiveness was measured by the scale of Morokoff et al. (1997). This scale examined whether participants are capable of refusing unwanted sex (e.g., "I refuse to have sex if I don't want to, even if my partner insists") or indicating wanted sex (e.g., "I let my partner know if I want my partner to touch my genitals"). Answers were given on a 5-point scale (1 = totally disagree, 5 = totally agree). A mean score was calculated across all eleven items and a higher score indicated more sexual assertiveness (Cronbach's alpha = .82).

Minority stress

Four minority stress factors were examined: experienced negative reactions because of LGB identity, openness about one's LGB identity, internalized homonegativity, and LGB community involvement. All answers were given on a 5-point scale (1 = does not applies to me, 5 = totally applies to me) and mean scores across items were calculated for each factor.

Experienced negative reactions were measured by two items: "I sometimes receive negative reactions regarding my sexual

orientation", and "I have been discriminated against because of my sexual orientation". A higher score indicated more negative reactions (Cronbach's alpha = .82).
Openness about one's LGB identity assessed with three items the extent to which other people (friends, classmates/colleagues, and family members) knew about participant's LGB identity. A higher score indicated more openness (Cronbach's alpha = .89).
Internalized homonegativity was measured with five items of a scale developed by Mohr and Fassinger (2000) that examined whether the participants had a negative attitude towards their own lesbian/gay or bisexual orientation (e.g., "I would rather be straight"). Two items were phrased in a positive way (e.g., "I am glad to be LGB"). These positive items were recoded so that a higher score was indicative of more internalized homonegativity (Cronbach's alpha = .74).
LGB community engagement was measured by three items assessing the extent to which participants were involved in the LGB community (e.g., "I have many LGB friends"). A higher score indicated more LGB community involvement (Cronbach's alpha = .80).

5.2.4 Analyses
The prevalence of minority stress was examined using descriptive statistics (valid percentages) for all minority stress items. Bivariate correlations between the four minority stress factors were also calculated. Differences in minority stress levels with regard to sex and sexual orientation were assessed using multivariate analysis of variance (MANOVA). In case of a significant multivariate effect, additional analyses of variance (ANOVAs) were conducted for each of the four minority stress factors separately, to examine in which minority stress factor the groups differed. To provide the reader with further insight in the differences by sex and sexual orientation, descriptive statistics were also calculated separately for lesbian/gay and bisexual women and men.

The relationships between minority stress factors and wellbeing and potential differences in these relationships according to sex and sexual orientation were investigated using stepwise regression analyses. To examine the relations between minority stress and wellbeing, all minority stress factors were simultaneously entered in the first step of the analyses. In case of dichotomous health measures (marijuana use) logistic regression

analyses were performed, while linear regression analyses were performed for continuous measures (alcohol use, social integration, relationship with parents, sexual self-esteem, and sexual assertiveness). In the second step, the main effects of sex and sexual orientation were added to the model. In the third step, the interactions between sex and the four minority stress factors, and the interactions between sexual orientation and the four minority stress factors were introduced. All analyses used a p = .05 level of significance.

5.3 Results

5.3.1 Levels of minority stress

Table 5.1 displays the percentages of LGB youth who experienced minority stress. The majority of the Dutch LGB youth reported no experiences with negative reactions or discrimination, while one fifth of the participants indicated that they had encountered negative reactions regarding their sexual orientation. The level of openness about their LGB identity depended on who the other person was; almost two-third of the participants were open about their LGB identity to their friends, while about half of the participants were open to their family. Most of the young women and men seemed to accept of their own sexual identity, but around one out of every seven participants would have preferred to be straight. The majority of the participating LGB youth was not very involved in the LGB community. Slightly more than half of the participants did not know many LGB individuals, and two out of every five participants reported that they did not have a lot of LGB friends. A minority visited mostly LGB venues when going out.

Table 5.1 Prevalence of minority stress factors among young LGBs in The Netherlands (*N* = 614; % responding '(totally) applied to me')

	total sample (*N* = 614)	women		men	
		lesbian (*n* = 138)	bi (*n* = 282)	gay (*n* = 130)	bi (*n* = 64)
Perceived negative reactions					
I sometimes receive negative reactions regarding my sexual orientation	20.8	25.4	13.9	30.0	23.4
I have been discriminated against because of my sexual orientation	20.2	29.0	9.6	32.3	23.4
Openness about one's LGB identity					
Most of my friends know that I am LGB	66.1	92.0	47.7	91.5	39.1
Most of my classmates/colleagues know that I am LGB	48.7	50.2	27.4	49.8	26.6
Most of my family members know that I am LGB	49.2	78.3	26.3	82.3	18.8
Internalized homonegativity					
If it was possible, I would prefer to be straight	14.2	13.8	11.0	14.6	28.1
I am glad to be LGB	64.3	75.4	56.9	80.0	40.6
Being gay is not so satisfying as being straight	15.3	17.4	13.5	14.6	20.3
I am proud to be a part of the LGB community	47.6	60.9	41.3	53.8	32.8
I would rather be straight	11.2	8.7	8.9	8.5	32.8
LGB community involvement					
I know a lot of LGBs in my surroundings	48.5	60.1	39.9	61.5	34.4
I have many LGB friends	38.6	51.4	27.8	52.3	31.3
If I go out, I mostly go to LGB bars or parties	19.5	41.3	4.6	34.6	7.8

Table 5.2 shows the correlations between the different minority stress factors experienced by LGB youth. Participants who were more open about their LGB identity encountered more experiences with discrimination and negative reactions regarding their sexual identity. Young LGB people with a more negative attitude towards their own LGB identity (internalized homonegativity) were less open about their identity. LGB youth who were more involved in the LGB community encountered more negative reactions, were more open, and reported lower levels of internalized homonegativity.

Table 5.2 Correlations between minority stress factors (*N* = 614)

	Perceived negative reactions	Openness about one's LGB identity	Internalized homonegativity
Perceived negative reactions	-		
Openness about one's LGB identity	.36***	-	
Internalized homonegativity	-.04	-.45***	-
LGB community involvement	.34***	.52***	-.28***

*** $p < .001$

5.3.2 Sex and sexual orientation differences in levels of minority stress

The overall MANOVAs for sex, Wilks' lambda = .92, $F(4, 609) = 13.60$, $p < .001$, and sexual orientation, Wilks' lambda = .64, $F(4, 609) = 87.33$, $p < .001$, were significant. Table 5.3 depicts the mean levels of minority stress by sex and sexual orientation.

ANOVAs revealed significant sex differences for three of the four minority stress factors. Young men experienced more negative reactions regarding their sexual orientation then young women. Furthermore, young men were more open about their LGB status, and were more involved in the LGB community than their female peers. Sexual orientation differences were found for all four minority stress factors. Lesbian/gay participants reported more negative reactions, greater levels of openness, lower levels of internalized homonegativity, and more LGB community involvement in comparison to bisexual participants.

Table 5.3 Sex and sexual orientation differences in minority stress factors (*N* = 614, mean scores)

	Sex			Sexual orientation		
	women	men	*p*	lesbian/ gay	bisexual	*p*
Minority stress factor						
negative reactions	2.09	2.60	<.001	2.65	1.95	<.001
openness about one's LGB identity	3.15	3.73	<.001	4.28	2.60	<.001
internalized homonegativity	2.12	2.26	*ns*	1.99	2.30	<.001
LGB community involvement	2.82	3.05	.01	3.35	2.54	<.001

5.3.3 Relationship between minority stress and wellbeing
Table 5.4 displays the results of the stepwise regression analyses assessing the relationships between minority stress and LGB youths' wellbeing, while taking potential sex and sexual orientation differences in account.

5.3.3.1 Substance use
The models regarding alcohol use and marijuana use were both significant, $F(4; 608) = 3.53$, $p = .01$, and χ^2 ($df = 4$; $N = 614$) $= 9.54$, $p = .05$. One factor significantly contributed to the model explaining alcohol use. Young LGB individuals who were more involved in the LGB community, consumed more alcoholic drinks when going out or on a date. Higher levels of marijuana use in the past twelve months were significantly related to experiencing more negative reactions regarding one's LGB identity and being less open about one's sexual orientation.

Adding sex and sexual orientation to the model was a significant improvement for the model regarding marijuana use, $\chi^2(df = 4; N = 614) = 9.54$, $p = .05$, with more bisexual youth using marijuana than lesbian/gay youth. When controlling for sexual orientation, the effect of openness about one's sexual orientation was no longer significant. Adding sex and sexual orientation did not improve the model of alcohol use, $F(2; 606) = 0.85$, $p > .10$. Adding the interactions between minority stressors and sex or sexual orientation did not significantly improve the models for alcohol use, $F(8; 598) = 0.73$, $p > .10$, or marijuana use $\chi^2(df = 8; N = 614) = 6.85$, $p > .10$, showing that the relationship between minority stress and substance use was similar for women and men and lesbian/gay, and bisexual youth.

5.3.3.2 Social wellbeing
The overall models for loneliness, $F(4; 612) = 11.43$, $p < .001$, and relationship with one's parents, $F(4; 612) = 8.99$, $p < .001$, were significant. Two minority stress factors were significantly related to both aspects of social wellbeing. LGB youth who experienced less negative reactions regarding their sexual orientation and those who were more open about their LGB identity were less lonely and reported a better relationship with their parents. In addition, LGB community involvement made a significant contribution to the model explaining loneliness.

Participants who were more involved in the LGB community felt less lonely than participants with less community involvement.

Introducing the main effects for sex and sexual orientation in the second step and adding the interactions between sex, sexual orientation and minority stress in the third step improved neither models of social wellbeing significantly; loneliness $F(2; 606) = 0.61$, $p > .10$ and $F(2; 606) = 0.85$, $p > .10$; relationship with parents $F(2; 606) = 1.10$, $p > .10$ and $F(8; 598) = 1.34$, $p > .10$. The lack of significant interactions again implies that the relationship between minority stress variables and social wellbeing was the same for women and men and lesbian, gay, and bisexual youth.

5.3.3.3 Sexual health

The models for sexual self-esteem, $F(4; 612) = 18.54$, $p < .001$, and sexual assertiveness, $F(4; 612) = 8.41$, $p < .001$, were both significant. All four minority stress factors were related to sexual self-esteem. A higher level of sexual self-esteem was related to perceiving less negative reactions, being more open about one's LGB identity, reporting lower levels of negative attitudes towards one's own sexual orientation and being more involved in the LGB community. Sexual assertiveness was significantly related to openness about one's LGB identity and internalized homonegativity. LGB youth who were more open and who reported lower levels of internalized homonegativity also reported higher levels of sexual assertiveness.

Both models improved by adding the main effects of sex and sexual orientation to the models; sexual self-esteem $F(4; 612) = 18.54$, $p < .001$; sexual assertiveness $F(4; 612) = 18.54$, $p < .001$. Lesbian/gay youth reported lower levels of sexual self-esteem than their bisexual peers and lesbian and bisexual women reported more sexual assertiveness than gay and bisexual men. In line with the previous models regarding substance use and social wellbeing, adding the interactions between minority stress variables and sex or sexual orientation did not improve the models pertaining to sexual health significantly, $F(8; 598) = 1.36$, $p > .10$ (sexual self-esteem), and $F(8; 598) = 1.28$, $p > .10$ (sexual assertiveness). This suggests that also in the case of sexual health, the relationship between minority stress and sexual health measures was similar for all groups within the LGB sample.

Table 5.4 Associations between minority stress factors and wellbeing (N = 614)

	Substance use		Social wellbeing		Sexual health	
	alcohol use (ß)	marijuana use (exp(B))	loneliness (ß)	relation-ship with parents (ß)	sexual self esteem (ß)	sexual assertive-ness (ß)
Model 1						
Perceived negative reactions	.04	1.21*	-.22***	-.18***	-.11**	-.07
Openness about one's LGB identity	.04	.84*	.12*	.21***	.05	.08
Internalized homonegativity	.06	.81	-.06	-.03	-.21***	-.17***
LGB community involvement	.11*	1.04	.13**	.01	.17***	.03
R^2 change	.02**		.07***	.06***	.11***	.05***
Nagelkerke R^2		.02*				

Table 5.4 (Continued)

	Substance use		Social wellbeing		Sexual health	
	alcohol use (ß)	marijuana use (exp(B))	loneliness (ß)	relation-ship with parents (ß)	sexual self esteem (ß)	sexual assertive-ness (ß)
Model 2						
Step 1: Minority stress						
Perceived negative reactions	.04	1.26**	-.21***	-.19***	-.11*	-.05
Openness about one's LGB identity	.07	.94	.15*	.17**	.14*	.15**
Internalized homonegativity	.06	.85	-.05	-.04	-.21***	-.14**
LGB community involvement	.12*	1.06	.13*	.00	.19***	.03
Step 2: Sex and sexual orientation						
Sex (ref. female)	-.03	1.39	..01	-.02	-.06	.15***
Sexual orientation (ref. LG)	-.06	.63*	-.05	.07	-.20*	-.06
R^2 change step 2	.00		.00	.00	.02***	.03***
Nagelkerke R^2		.04**				
R^2 adjusted final model[1]	.02**		.06***	.05***	.13***	.07***
Nagelkerke R^2 final model[1]		.04***				

Note. None of the steps introducing the interactions between sex and minority stress, or sexual orientation and minority stress, yielded a significant improvement of the model. These steps are therefore omitted in the Table.

[1] In case step 2 in model 2 is significant, model 2 is regarded as the final model. In case step 2 of model 2 is not significant, model 1 is regarded as the final model.

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

5.4 Discussion

This study shows that LGB youth who grew up in The Netherlands, a relatively tolerant society, still may experience minority stress. For example, a substantial percentage of the present sample experienced negative reactions due to their sexual orientation and, while the majority of the LGB young people seem to accept their sexual orientation, roughly one in seven preferred to be straight. Bisexual youth, and bisexual men in particular, reported higher levels of minority stress.

A closer look at the attitudes of the Dutch population towards LGB individuals might shed more light on the ongoing minority stress experienced by LGB youth. Although The Netherlands is known for its relatively tolerant social environment for sexual minorities, equality between LGB and heterosexual individuals is not supported by everyone. For example, a recent population study showed that 11% of the Dutch population believed that marriage for same-sex couples should be abolished, and 21% did not agree with the statement that gay couples should have the same rights as straight couples when it comes to adoption (Keuzenkamp, 2010). In addition, 13% of the population would not accept it if their own child would live together with a same-sex partner.

The disadvantaged position of bisexual youth is in line with previous studies (D'Augelli, Grossman, & Starks, 2005; Franssens, 2009; Vanden Berghe, Dewaele, Cox, & Vincke, 2010). The higher levels of minority stress among bisexual youth might reflect a more negative attitude towards bisexual than towards lesbian/gay people in society in general and specific bi-negative attitudes among lesbian/gay individuals (Eliason, 1997; Herek, 2002; Mohr & Rochlen, 1999; Rust, 1993, 2002).

5.4.1 Relationship between minority stress and wellbeing

Experiencing minority stress is not only a negative event or feeling in itself, but minority stressors were also related to the wellbeing of LGB youth. In particular, our findings show that experiencing negative reactions because of an LGB identity was related to higher levels of loneliness, a worse relationship with their parents, and lower sexual self-esteem. Not being open about one's same-sex identity was associated with lower levels social wellbeing and sexual health. Internalized homonegativity was in particular related to sexual health problems (e.g., lower sexual self-esteem

and lower levels of sexual assertiveness). Being more involved in the LGB community seemed to protect against some of the negative wellbeing outcomes. More community involvement was associated with lower levels of loneliness and higher levels of sexual self-esteem. However, being more involved in the LGB community was also related to a higher level of alcohol consumption. This is in potential contradiction with the prediction of the minority stress model, which holds that having an LGB network protects against negative health outcomes (e.g., substance use). However, our findings might be explained by the way alcohol use was measured. The current study only focussed on drinking when going out to clubs or bars or when going on a date. These are venues and occasions where involvement with the community occurs and where alcohol is also widely available. This co-occurrence might be an explanation for the relationship between being more involved in the LGB community and a higher level of alcohol consumption. In addition, it might be that LGB youth who were more involved in the LGB community drank more alcohol drinks because alcohol use may ameliorate social anxiety and increase self-confidence, which they might have needed to become involved in the LGB community in the first place (Rosario, Schrimshaw, & Hunter, 2004).

The relationships between minority stress and substance use, social wellbeing, and sexual health are in line with two recent studies that show that minority stress still plays a role in explaining the mental health of LGBs in The Netherlands (Franssens, 2009) and Belgium (Vanden Berghe et al., 2010). Hegna and Wichsttom (2009) offer an explanation for the continuing influence of minority stress factors on the health of today's LGB youth. They suggest that coming out at a relatively younger age, as might be the case for more recent generations of LGB people (see Grov et al., 2006), and realizing at a younger age that one is "different", results in having to cope with stress related to a LGB identity at an age at which one is not yet equipped with the coping skills to deal with this stress. At a younger age, LGB individuals might not be ready to deal with the difficulties of accepting a stigmatized identity and the possible negative reactions of others. The minority stressors they encounter might therefore have a large impact on their wellbeing.

The current study also shows that minority stress factors were related to wellbeing in the same way for women and men

and lesbian/gay and bisexual youth, which may explain findings from recent studies reporting the highest levels of health problems among bisexual youth (Corliss, Rosario, Wypij, Fisher, & Austin, 2008; Marshal et al., 2008; Marshal, Friedman, Stall, & Thompson, 2009; Robin et al., 2002). While minority stress was negatively related to the health of gay, lesbian, as well as bisexual youth, bisexual youth reported higher levels of experienced minority stress. This might result in higher levels of health problems among bisexual young people than among their lesbian/gay peers.

Although minority stress factors were indeed related to wellbeing, the low levels of variance explained by the minority stressors leave room for additional factors that may explain substance use, social wellbeing, and sexual health of LGB youth. One obvious candidate is expectations of discrimination and victimization, the minority stress factor that was not included in the current study. Furthermore, an elaboration of the minority stress model might include the consequences of one's disclosure of LGB status. For example, a study by Rosario et al. (2009) showed that it was not the level of disclosure that was relevant for explaining substance use problems among LGB youth, but the reactions young LGB individuals received on their disclosure.

5.4.2 Limitations

The current study had several limitations. Firstly, the study recruited a convenience sample of self-selected LGB youth. Self-selection is a factor known to influence outcomes of studies on sexuality (Dunne et al., 1997; Wiederman, 1993). Furthermore, the participants were recruited on LGB websites and mailing lists, which may also have resulted in a selection bias. Young LGB individuals who visit LGB websites and subscribe to LGB mailing lists might be more open and more involved in the LGB community than young LGB people who do not visit these pages or have not joined LGB mailing lists. Alternatively, it is also possible that this young people have a more negative attitude towards their own sexual orientation and seek support from others on the internet.

Secondly, no validated measures were used to asses perceived negative reactions, openness about one's sexual identity, and LGB community involvement. Some minority stress factors could also be measured using more comprehensive measures. For example, the measurement of perceived negative reactions might be improved by assessing a range of types and

sources of such reactions. The operationalization of substance use can also be strengthened by using multiple item measures that assess substance use in a range of contexts.

A further limitation is the cross-sectional design of the study, which does not allow interferences about the causality of relationships. It can be argued that minority stressors influence wellbeing outcomes, but it might also be the other way around: wellbeing might influence the levels of minority stress. For example, being more open about one's same-sex sexual orientation might lead to a better relationship with one's parent's, but it might also be the case that those LGB youth who have a supportive relationship with their caregivers feel more comfortable to be open about their LGB identity. Longitudinal data are needed to better address the cause and effect chain of minority stress and health.

Also of importance in interpreting the findings, is the operationalization of sexual orientation. We included those young people who self-identified as lesbian, gay, or bisexual. However, other criteria, such as self-reported same-sex attraction or same-sex sexual behaviors could also be used. Different operationalisations can yield different results (Hegna & Rossow, 2007; Marshal et al., 2008; Saewyc et al., 2009). For example, a meta-analysis of Marshal et al. (2008) showed the strongest effect of sexual orientation on substance use when sexual orientation was measured by self-identification.

5.4.3 Implications

The current study showed that contemporary LGB youth who are growing up in a relative tolerant society still experience substantial minority stress, and that this is related to negative outcomes regarding substance use, social wellbeing, and sexual health. Whether this can be explained by negative attitudes towards LGB individuals that still exists in the Netherlands, and/or by the limited coping skills of (very) young people dealing with being "different", remains to be examined in future studies. Despite the limitations and remaining questions, the study offers several leads to improve the situation of LGB youth. One obvious minority stress factor that is in need of attention are the negative reactions LGB youth receive on their sexual orientation. These findings, once again, point out the importance of addressing homophobic bullying and teasing in schools, media, family, and community contexts. A

more positive approach towards the improvement of LGB youth wellbeing might be to try and increase their access to LGB networks. However, especially younger LGB youth might find it difficult to become active in the LGB scene, which mostly evolves around bars and clubs. From that perspective, it seems promising that the largest LGB organisation of the Netherlands (COC Nederland) is offering LGB youth of 18 years and younger ways to get to know each other and join the LGB movement (e.g., with an interactive website, magazine, meetings, and parties specially aimed at the younger LGB).

CHAPTER 6

EXAMINING SEXUAL HEALTH DIFFERENCES BETWEEN LGB AND HETEROSEXUAL ADULTS: THE ROLE OF SOCIODEMOGRAPHICS, SEXUAL BEHAVIOR CHARACTERISTICS, AND MINORITY STRESS

This chapter is based on the following publication:
Kuyper, L., & Vanwesenbeeck, I. (2011). Examining sexual health differences between lesbian, gay, bisexual, and heterosexual adults: The role of sociodemographics, sexual behavior characteristics, and minority stress. *Journal of Sex Research, 48,* 263-274.

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Abstract. Many studies focus on the differences in mental health between lesbian, gay, bisexual (LGB), and heterosexual individuals. Less attention has been paid to the differences in various aspects of sexual health, and the potential explanations for these differences. Data from a Dutch population study on sexual health (age 19-70 years, N = 4,333) were used to examine the potential differences in sexual satisfaction, sexual victimization, sexual dysfunction, and sexual health care need. At the same time, we examined whether the differences could be attributed to differences in general factors influencing sexual health (socio-demographic variables, sexual behavior characteristics) or to LGB-specific factors (minority stress). The results showed that bisexual women and bi- and homosexual men had more often experienced sexual coercion and reported a higher need for sexual health care than their heterosexual counterparts. Both general determinants (e.g. a higher number of sexual partners, being single) and LGB-specific factors (internalized homonegativity, negative social reactions related to sexual orientation) were associated with different aspects of sexual health. Interventions aimed at improving the sexual health of LGB individuals should focus on general risk factors as well as on LGB-specific stressors. Methodological limitations of the study and implications for further research are discussed.

6.1 Introduction

A large body of research focuses on health differences between LGB (lesbian, gay, and bisexual) and heterosexual individuals. Many studies focus on differences in mental health. The majority of these studies report a relatively poor mental health status among LGB people (e.g. Abelson, Lambevski, Crawjord, Bartos & Kippax, 2006; Cochran, Sullivan & Mays, 2003; De Graaf, Sandfort & Ten Have, 2006; Gilman et al, 2001; Herek & Garnets, 2007; Herrell et al, 1999; Koh & Ross, 2006; Matthews, Hughes, Johnson, Razzano & Cassidy, 2002; Mays & Cochran, 2001; Paul et al, 2002; Russell, 2003; Russell & Joyner, 2001; Sandfort, Bakker, Schellevis & Vanwesenbeeck, 2006; Sandfort, Bakker, Schellevis & Vanwesenbeeck, 2009; Sandfort, de Graaf & Bijl, 2003; Sandfort, de Graaf, Bijl & Schnabel, 2001). Much less attention is paid to differences in various aspects of sexual health.

In 2002, the WHO developed a working definition of sexual health. It states that 'sexual health is a state of physical, emotional, mental, and social wellbeing in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity. Sexual health requires a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence. For sexual health to be attained and maintained, the sexual rights of all persons must be respected, protected and fulfilled' (WHO, 2006, pp. 5). Sexual health is an umbrella concept, encompassing adequate protection against STD/HIV, and the absence of sexual dysfunction (disturbances in sexual desire, arousal or orgasm, or sexual pain, that cause distress) and sexual coercion (experiences of unwanted sexual behavior). In addition, it includes the possibility of having pleasurable sexual experiences. Despite this broad definition of sexual health, studies on the sexual health of LGB individuals mostly pay attention to STD/HIV issues among men who have sex with men (MSM). Notwithstanding the fact that STD/HIV is indeed a significant problem still faced by many MSM (e.g. Stall et al., 2009), there are indications that LGB individuals also hold a disadvantageous position in other sexual health areas. Several studies showed that LGB people are possibly more at risk of sexual coercion and violence (Coxell, King, Mezey & Gordon, 1999; Henderson, Lehavot & Simoni, 2009; Hughes, Johnson & Wilsnack, 2001; Ratner et al., 2003; Saewyc et al., 2006; Tomeo, Templer,

Anderson & Kotler, 2001) and report sexual dysfunction more often (Bancroft, Carnes, Janssen, Goodrich & Long, 2005; Henderson et al., 2009; Laumann, Paik & Rosen, 1999) when compared to heterosexual individuals.

From a prevention perspective, it is important to go beyond the mere description and documentation of these differences, and to search for explanations. Generally speaking, there are two sorts of explanations. Firstly, it could be that LGB and heterosexual persons differ in general factors in sexual health (e.g. socio-demographic variables or sexual behavior characteristics). Secondly, the adverse sexual health status of LGB people could be explained by LGB-specific factors (e.g. anti-gay harassment) that do not apply to heterosexuals.

The present study set out to explore some of the possible differences in sexual health between LGB and heterosexual individuals. In addition, we examined various factors that may account for these differences.

6.1.1 General influences on sexual health

We focused on two kinds of general factors that could explain the differences between LGB and heterosexual individuals' sexual health. First of all, following the strategy used by Horowitz, Weis & Laflin (2001) to investigate differences in health behavior and quality of life, we examined whether the potential differences in sexual health are due to socio-demographic differences.

LGB individuals might differ from heterosexual people in socio-demographics, and these differences might in turn (partly) explain the differences in sexual health status. A representative sample of LGB people is very difficult, if not impossible, to compose (Sandfort, 1997). Whether it is due to sample biases or real differences between heterosexual and LGB individuals, several studies found that sampled LGB people were more educated (Horowitz et al, 2001; Kuyper, 2006; Mercer et al., 2004; Smith, Rissel, Richters, Grulich & de Visser, 2003; Turner, Villarroel, Chromy, Eggleston & Rogers, 2005), younger (Horowitz et al, 2001; Kuyper, 2006; Smith et al., 2003), less religious (Horowitz et al., 2001; Turner et al., 2005), and more likely to live in big cities (Horowitz et al., 2001; Kuyper, 2006; Mercer et al., 2004; Smith et al., 2003; Turner et al., 2003) than the heterosexual individuals in these samples. These differences could be relevant in terms of differences in sexual health, since various aspects of

sexual health vary according to socio-demographic factors. Gender and age are both related to experiencing sexual dysfunction (Bancroft et al., 2005; Dunn, Jordan, Croft & Assendelft, 2002; Simons & Carey, 2001; West, Vinikoor & Zolnoun, 2004; Kedde & Bakker, in review). For example, Kedde & Bakker (in review) found that elderly men and young women report sexual dysfunction relatively often. Gender and age are also related to sexual victimization (Vanwesenbeeck, 2008). Women, particularly younger women and women with less education, are victimized relatively often. Socio-demographics are also related to help-seeking behavior: men and less educated people use mental health services less often (Vanheusden et al., 2008; Wang et al., 2007). Women also initiate discussion with their health care provider about sexual health relatively often (Emmers-Sommer et al., 2009).

In addition, sexual behavior characteristics may be related to sexual health. Two prominent features in this respect are partner status (having a steady partner or not) and the number of lifetime sexual partners. These aspects differ between LGB and heterosexual individuals. LGB people have more lifetime sexual partners and are less often involved in a steady relationship (e.g. Bancroft et al, 2005; Kuyper, 2006; Laumann, Gagnon, Micheal & Micheals, 1994; Lediron, VanZessen & Hubert, 1998; Sandfort et al., 2001). For example, in the study of Sandfort et al. (2001), 12.0 % of the heterosexual men had no steady partner, in comparison to 48.8 % of the homosexual men. Among women, these percentages were 9.1 % for heterosexual and 32.6 % for homosexual women. Both aspects are also linked to sexual health. For example, having more lifetime partners increases the risk of sexual coercion (Buddie & Testa, 2005; Krahé, 1998; Krahé, Scheinberger-Olwig & Schütze, 2001; Testa & Dermen, 1999; Testa, VanZile-Tamsen & Livington, 2007; Young & Furman, 2008). Being single is related to sexual problems (Rosser, Metz, Bockting & Buroker, 1997) and a higher need for sexual health care with regard to STD/HIV (Vanwesenbeeck, Zaagsma & Bakker, 2006). Therefore, it is possible that the differences between LGB and heterosexual people are (partly) due to differences in sexual behavior characteristics.

6.1.2 LGB-specific influences

From another perspective, LGB-specific factors may (additionally) explain the adverse sexual health status of LGB individuals. The minority stress model summarizes some of these LGB-specific factors. It is a theoretically-based framework explaining adverse mental health status of LGB individuals (DiPlacido, 1998; Meyer, 1995; 2003; Rosario, Rotheram-Borus & Reid, 1996). The model postulates that sexual minorities are at risk of health problems because they experience a unique, chronic stress as a result of their minority status. Meyer (2003) distinguishes four different minority stress processes: experiences of prejudice, expectations of rejection or discrimination, hiding and concealing one's sexual orientation, and internalized homophobia (the direction of societal negative attitudes toward oneself). Social support and networks are incorporated in the minority stress framework as stress ameliorating factors.

Several studies have shown that minority stressors can also influence sexual health. For example, higher levels of internalized homonegativity are related to experiencing sexual problems (Dew & Chaney, 2005; Meyer, 1995; Meyer & Dean, 1995; Rosser et al, 1997; Rowen & Malcolm, 2002; Szymanski, Kashubeck-West & Meyer, 2008). They are also related to attitudinal components of sexual health, such as lower levels of relationship satisfaction and body image (Kimmel & Mahalik, 2005; Meyer & Dean, 1995; Mohr & Fassinger, 2006; Szymanski et al., 2008). In addition, higher levels of internalized homonegativity are linked to sexual (or domestic) victimization (Balsam & Szymanski, 2005; Kelley & Robertson, 2008). Another minority stressor which might be associated with sexual health relates to discrimination and prejudice. Several studies show that being a victim of anti-gay harassment is associated with increased sexual problems, less relationship satisfaction, (gender or) sexual victimization and body ideal distress (Balsam & Szymanski, 2005; Kimmel & Mahalik, 2005; Otis, Rostosky, Riggle & Hamrin, 2006; Rosser et al, 1997; Zamboni & Crawford, 2007). Thus, there is evidence that sexual health differences between LGB and heterosexual people may (partly) be due to these unique, gay-related stressors.

6.1.3 Current study

While between-group studies on aspects of sexual health among LGB and heterosexual individuals often suggest potential

explanations in terms of, for instance, socio-demographic differences, partner status or number of sexual partners, these explanations are barely empirically tested. Within-group studies focusing on LGB-only samples mostly investigate the role of (often one aspect of) minority stress in (one aspect of) sexual health, but they do not examine its additional explanatory power beyond general factors like socio-demographics or sexual behavior characteristics (e.g. Balsam & Szymanski, 2005; Dew & Chaney, 2005; Kelley & Robertson, 2008; Kimmel & Mahalik, 2005). Therefore, it is not known whether the differences in sexual health are due to differences in general factors, to minority stress, or to both. Another problem with the existing literature is that it mostly focuses on gay men and less often on lesbian women. In addition, whether male or female, bisexuals are hardly ever included, or grouped together with homosexuals. In this way, potential differences regarding gender or homo- or bisexual orientation are overlooked.

The current study set out to explore these issues by using the data of a large population-based study on sexual health in the Netherlands. It aims to contribute to the existing knowledge on the differences between LGB and heterosexual individuals in sexual health, and at the same time to investigate the possible explanations for these differences. Aspects of sexual health were selected on the basis of previous studies indicating differences between LGB and heterosexual individuals, the wish to represent a broad spectrum of aspects of sexual health, and the practical constraints placed by the limited space offered by the population-based study from which the data were derived. We were able to include four aspects of sexual health: sexual satisfaction (a positive evaluation of various aspects of one's own sexuality), sexual coercion (having experienced unwanted sexual behavior), sexual dysfunction (distressing disturbances in sexual desire, arousal or orgasm, or sexual pain) and sexual health care need (the need for health care related to sexuality).

Three specific research questions guided the current study: 1) Are there any differences between homosexual, bisexual, and heterosexual men and women with regard to sexual satisfaction, sexual coercion, sexual dysfunction, and sexual health care need; 2) Can these differences be attributed to differences in socio-demographics or sexual behavior characteristics, and 3) What is the additional value of minority stress to the explanation of these

differences in sexual health within the group of homo- and bisexual participants?

6.2 Method

6.2.1 Procedure

The data for the current study were gathered in a population-based study on sexual health in the Netherlands between November 2005 and February 2006 (Bakker & Vanwesenbeeck, 2006). Participants were recruited from a large Internet panel for online surveys, consisting of 250,000 members. Members received so-called 'clix' for participating in online surveys, with which they can buy products on the internet. A two-step recruitment procedure was followed. In the first step, 7,210 panel members from the age of 19 to 70 years were randomly selected, and invited by e-mail to fill out the questionnaire online. The anonymity of their answers was guaranteed. After 2,000 questionnaires had been completed, the representativeness of the sample was examined with regard to gender, age, educational level, and ethnic background. Groups that were underrepresented in this first step were selectively approached in the second step, in order to improve the representativeness of the sample. However, it also led to a lower response rate, since the underrepresented groups (e.g. ethnic minorities, the elderly) were more difficult to reach and therefore, more invitations had to be sent out. More details about the recruitment procedure can be found in Kuyper & Vanwesenbeeck (2009) and Vanwesenbeeck, Bakker & Gesell (in press). In total, about 14,900 people were invited to fill out the questionnaire. The sample contained 4,174 participants. Therefore, the overall response rate was 28%.

In addition to an overall representative sample, extra care was given to recruitment of a large number of sexual minorities in order to make reliable comparisons between LGB and heterosexual individuals. Hence, announcements were put on LGB websites (e.g. the websites of a Dutch lesbian magazine and a LGB youth magazine). This increased the sample size by 159 sexual minority participants.

6.2.2 Participants

The mean age of the participants was 38.2 years (*sd* = 11.8). A third of them were of lower educational level (e.g. primary school or vocational educational level), while 29.5% were of higher

educational level (e.g. university or college degree). Almost half of them lived in small to large cities (49.4%), 22.3% lived in towns or in the countryside and 28.2% lived in one of the four largest cities in the Netherlands (Amsterdam, Rotterdam, The Hague or Utrecht). The vast majority was of Dutch (or other western) origin (90.1%) and had no religious affiliation (76.5%).

The participants were divided into three groups according to sexual orientation. This division was made on the basis of respondents' answers to a question regarding sexual attraction ("Do you feel sexually attracted to men, women or both?", 1=only to men, 2=mostly to men, 3=equally to men and women; 4=mostly to women; 5=only to women; 6=to neither men nor women). Participants indicating that they did not feel themselves sexually attracted either to men or to women were excluded (n=17). Participants indicating that they only felt sexually attracted to their own gender were regarded as homosexual or lesbian. Participants indicating that they mostly felt attracted to their own gender or to both genders were coded as bisexual. Those who felt mostly or only attracted to the other gender were coded as heterosexual. This imbalanced division was based on feedback from a pilot study. Those who were mostly attracted to the other gender indicated that the specific questions regarding sexual minorities (e.g. about internalized homonegativity) were not applicable to them because they considered themselves to be heterosexual. The procedure yielded the following groups: lesbian women (n=111), bisexual women (n=127), heterosexual women (n=1965), homosexual men (n=84), bisexual men (n=74) and heterosexual men (n=1928). These groups differed in terms of the previously mentioned demographic aspects. Among women, bisexual women were younger than either heterosexual or lesbian women (F (2, 2200) = 12.8, p = .00, η^2 = .01). Heterosexual women were less educated compared to lesbian or bisexual women (F (2, 2200) = 22.86, p = .00, η^2 = .02). Men only differed with regard to living area: homosexual men lived in more urban areas when compared to heterosexual men (F (2, 2083) = 3.56, p = .05, η^2 = .01).

6.2.3 Measures

The questionnaire contained measures pertaining to demographics, sexual history, sexual coercion, pregnancy, contraception, STI topics, and broader sexual (self) concepts. For the current study,

the socio-demographic aspects taken into account were: gender, sexual orientation, age (in years), educational level (1 = primary school; 6 = university or college degree), attendance at religious services (1 = at least once a week; 5 = never) and living area (1 = living in one of the four biggest cities in the Netherlands; 5 = living in the country). In addition, the following sexual behavior, sexual health and minority stress measures were used.

Sexual behavior measures

Partner status. Partner status indicated whether one was currently involved in a relationship or not (0 = currently not involved; 1 = currently involved). This could be a marriage, but legal registration of the relationship was not a prerequisite.

Number of sexual partners. Number of partners assessed the total number of different people one had had sex with in his or her whole life (1 = no one, 10 = more than 500).

Sexual health measures

Sexual satisfaction. Sexual satisfaction was measured by four items reflecting the evaluation of one's sex life ("I am satisfied with the emotional aspects of my sex life", "I am satisfied with the physical aspects of my sex life", "I am happy with my sex life" and "I feel unsure about my body during sexual contact"). Answers were given on a five-point-scale (1 = totally agree; 5 = totally disagree) and negative items were scored in reverse. Therefore, a higher score indicated more sexual satisfaction (Cronbach's alpha = .86).

Sexual coercion. Sexual coercion was measured by one broad question: "Violence can be sexual, and it can happen everywhere (e.g. on the streets or at home). It can be perpetrated by strangers or by people you know. It can be a harmful sexual approach or touch, or can involve force to perform or to permit sexual acts. Did this ever happen to you? (1 = never, 5 = very often)". A higher score indicated more experiences with sexual coercion.

Sexual dysfunction. Participants filled out the Questionnaire for screening Sexual Dysfunction (QSD, Vroege, 1994) [Vragenlijst voor het signaleren van Seksuele Disfuncties]. This extensive questionnaire assessed seven sexual dysfunctions (e.g. "sexual aversion" or "premature orgasm") according to the DSM-IV criteria: the experience of dysfunction had to occur relatively frequently and to cause personal distress (a score of at least three on both five-point scales for frequency and distress). The measure

used in the current study combined the seven sexual dysfunctions in one measure indicating whether one had experienced at least one sexual dysfunction during the last twelve months (0 = no; 1 = yes).

Sexual health care need. Sexual health care need was measured by 11 items measuring one's need for professional care in different areas of sexual health (e.g. sexual compulsive behavior, relationship issues) during the last twelve months. The scores were summed up across these different topics into one summarizing score indicating whether or not one had had any need for sexual health care (0 = no, 1 = yes).

Minority stress measures (only for LGB participants)

Concealment. Concealment of one's sexual orientation was measured by two items asking whether the mother and the father of the participant knew about their attraction to same-sex partners. These items were combined into one variable indicating whether both parents did or did not know (1 = they do not know; 0 = they know).

Internalized homonegativity. The negative attitude toward one's own attraction to same-sex partners, was measured by two items ("If I could choose, I'd rather be (totally) straight" and "For me, my homo- or bisexual feelings are no problem at all") (1 = totally disagree, 5 = totally agree). The second item was scored in reverse and mean scores were calculated, so a higher score indicated more internalized homonegativity (Cronbach's alpha=.78).

Negative social reactions. One item measured whether LGB persons had ever encountered negative reactions from others due to their same-sex attractions or behaviors (1 = never, 5 = very often). A higher score indicated more negative reactions because of same-sex sexuality.

6.2.4 Analyses

In order to take gender differences and differences with regard to sexual orientation into account, all analyses were run separately for women and men and sexual orientation was encoded as a dummy variable (in the multiple regression analyses).

Differences in sexual health between homo-, bi- and heterosexuals were examined using a multivariate analysis of variance (MANOVA) to test for the overall difference in the continuous measures of sexual health (sexual satisfaction and

sexual coercion). In case of a significant overall model, separate univariate analyses of variance (ANOVA) were conducted to establish in which specific sexual health areas LGB participants differed from heterosexual participants. When these ANOVA's revealed a significant main effect, the three groups were compared by post hoc tests (Tukey HSD). In case of dichotomous variables (sexual dysfunction and sexual health care need), Chi tests were performed. When the Chi tests yielded significant main effects, the adjusted residuals were examined. In order to examine whether the differences in sexual health could be attributed to differences in socio-demographics or sexual behavior characteristics, multiple regression analyses were performed (linear regression for the continuous measures of sexual satisfaction and sexual coercion, logistic regression for the dichotomous measures of sexual dysfunction and sexual health care need). To assess the additional effect of minority stress, a subsample of LGB participants was selected. Within this LGB subsample, two-step hierarchical multiple (logistic or linear) regression analyses were performed. In the first step, socio-demographics and sexual behavior characteristics were introduced. In the second step, minority stress processes were included. A significance level of .05 was used in all analyses.

6.3 Results

6.3.1 Do homo-, bi- and heterosexual individuals differ in sexual health?

Table 6.1 displays the results of the analyses for both women and men with regard to the differences in sexual health. The overall MANOVA's yielded significant models for women (Wilks' lambda = .96, F (4, 4398) = 3.03, p = .00) as well as for men (Wilks' lambda = .97, F (4, 4164) = 15.11, p = .00).

Among women, sexual orientation was related to two aspects of sexual health. Bisexual women reported more experiences with sexual coercion than heterosexual women (Mean Difference = .257; p = .01). Furthermore, a higher percentage of bisexual women compared to heterosexual women indicated that they felt a need for professional sexual health care during the past twelve months (43.3% versus 26.5%; adjusted residual 4.0).

Table 6.1 Mean scores or percentages for sexual health among homo-, bi- and heterosexual individuals

	homosexual (n = 111)	bisexual (n = 127)	heterosexual (n = 1965)	test statistic	effect size
Women					
sexual satisfaction	3.79	3.56	3.68	F (2; 2200) = 1.18	Partial eta^2 = .00
sexual coercion	1.64	1.87_a	1.62_a	F (2; 2200) = 5.00**	Partial eta^2 = .01
sexual dysfunction	21.6%	26.0%	21.7%	X^2 (2, n = 2203) = 1.27	Cramer's V = .03
sexual health care need	33.3%	$43.3\%_a$	$26.5\%_a$	X^2 (2, n = 2203) = 18.67***	Cramer's V = .09
Men	homosexual (n = 84)	bisexual (n = 74)	heterosexual (n = 1928)		
sexual satisfaction	3.71	3.74	3.81	F (2, 2083) = 2.31	Partial eta^2 = .00
sexual coercion	1.32_a	1.26_b	$1.07_{a,b}$	F (2, 2083) = 30.19***	Partial eta^2 = .03
sexual dysfunction	14.3%	14.9%	16.0%	X^2 (2, n = 2086) = 0.23	Cramer's V = .01
sexual health care need	$46.4\%_a$	$33.8\%_b$	$17.8\%_{a,b}$	X^2 (2, n = 2086) = 51.99***	Cramer's V = .16

Note. Groups with identical subscripts differed significantly at p = .05 level.
* p < .05; ** p < .01; *** p < .001

The analyses for men resulted in a slightly different picture. Homosexual as well as bisexual men had relatively many experiences with sexual coercion (Mean Difference = .249; p = .00 and Mean Difference = .184; p = .00) and compared to heterosexual men, a higher percentage of homo- and bisexual men indicated a need for sexual health care (respectively 46.4% and 33.8% versus 17.8%, adjusted residuals respectively 6.4 and 3.2).

6.3.2. Can the differences between LGB and heterosexual individuals be attributed to socio-demographic differences or differences in sexual behavior characteristics?

Table 6.2 displays the results of the multiple regression analyses. For women, all the overall models were significant. For men, three overall models (pertaining to sexual satisfaction, sexual coercion and sexual health care need) were significant. For women as well as men, having a steady partner was related to more sexual satisfaction. For men only, satisfaction was additionally related to having a higher number of different sexual partners and being less educated.

For women, a relatively high number of sexual partners was a risk factor for sexual victimization, as was being single and being less educated. While a direct comparison of bisexual and heterosexual women showed that bisexual women were more often sexually coerced (see Table 6.1), sexual orientation was no longer a significant predictor when socio-demographic and sexual behavior variables were entered in the model. The elevated levels of sexual victimization among bisexual women appeared to be related to the fact that bisexual women had had more sexual partners (M = 5.00, SD = 1.70) than either heterosexual (M = 4.09, SD = 1.46) or lesbian women (M = 4.51, SD = 1.46) and the number of partners was, by far, the most important predictor for being victimized. Among the men, those with a greater number of sexual partners were victimized more often, as were homo- and bisexual men. However, unlike for women, men's (homosexual as well as bisexual) sexual orientation was still a unique contributor to coercion in addition to their number of partners.

The model relating to sexual dysfunction among men was non-significant. For women, two factors uniquely contributed to the model: younger age and a higher number of sexual partners.

Table 6.2 Determinants of sexual health differences between homo-, bi- and heterosexual individuals (*n* men = 2086; *n* women = 2203)

	sexual satisfaction (*Beta*)		sexual coercion (*Beta*)		sexual dysfunction (*Exp(B)*)		sexual health care need (*Exp(B)*)	
	women	men	women	men	women	men	women	men
Socio-demographic								
homosexual (versus heterosexual)	.04	-.04	.00	.13***	.97	.79	1.20	2.89***
bisexual (versus heterosexual)	-.01	-.01	.04	.07**	1.02	.86	1.38	1.61
age	-.03	-.04	.02	.04	.98***	1.00	.96***	.98***
educational level	.03	-.06**	-.05*	.03	.98	1.02	1.04	.97
religious services attendance	-.01	-.02	-.01	-.03	.93	.97	.85**	.92
living area	-.01	.02	-.01	-.03	.92	.98	.99	1.00
Sexual behavior characteristics								
partner (versus no partner)	.25***	.27***	-.05*	.01	.88	.89	1.16	.68**
number of sexual partners	.04	.12***	.22***	.09***	1.12**	1.00	1.33***	1.15***
R^2	.08***	.08***	.06***	.04***				
Nagelkerke's *R*					.02***	.00	.11***	.07***

Note. None of the intercorrelations between the independent variables exceeded $r = -.22$.
* $p < .05$; ** $p < .01$; *** $p < .001$

The last model (sexual health care need) yielded the same picture as the previous models: the differences between heterosexual and bisexual women could entirely be attributed to the differences in socio-demographic and sexual behavior characteristics, while among men, they could only partly be attributed to the differences in socio-demographic or sexual behavior characteristics. Younger women, more religious women and women with relatively many sexual partners had a need for sexual health care more often than others, while this was true for younger men, single men, men with relatively many sexual partners and homosexual men.

6.3.3 Can the differences in sexual health within the LGB subsample be attributed to minority stress?

To examine the influence of minority stress, a subsample of LGB individuals was selected. Socio-demographic variables and sexual behavior characteristics were introduced in the first step of the analyses and minority stress factors in the second. Table 6.3 shows the results for women. All final models are significant. In three models, a significant change was obtained by adding minority stress to the socio-demographic and sexual behavior characteristics; this was true for sexual satisfaction, sexual coercion and sexual health care need.

In the final model regarding women's sexual satisfaction, being more satisfied was related to having a steady partner, being older and two minority stress variables: having a lower level of internalized homonegativity and less often encountering negative reactions from others to their same-sex attraction. Being sexually victimized was more often related to being bisexual (versus lesbian) among women, having had more sexual partners, and reporting more negative social reactions. Two minority stress factors (i.e. relatively high scores on internalized homonegativity and reporting more negative social reactions) were unique contributors to the model concerning sexual health care need among women (in addition to being younger and less religious).

As mentioned before, the change in the model regarding sexual dysfunction among sexual minority women was not significant. However, the final model was significant, with higher levels of internalized homonegativity (in addition to being younger and less religious) being linked to sexual dysfunction within the group of lesbian and bisexual women.

Table 6.3 Determinants of sexual health differences within the group of lesbian and bisexual women (n = 238)

	sexual satisfaction (*Beta*)		sexual coercion (*Beta*)		sexual dysfunction (*Exp(B)*)		sexual health care need (*Exp(B)*)	
	model 1	model 2	model 1	model 2	model 1	model 2	model 1	model 2
Socio-demographic								
lesbian (versus bisexual)	.08	.08	-.13	-.15*	1.25	1.32	1.00	1.11
age	.14*	.14*	.13	.10	.95**	.95**	.96*	.96*
educational level	.09	.08	-.08	-.10	.98	.98	.91	.92
religious services attendance	.04	.02	-.13	-.11	.69*	.70*	.63*	.65*
living area	.02	.01	.08	.07	.84	.85	.86	.85
Sexual behavior characteristics								
partner (versus no partner)	.31***	.30***	-.11	-.10	.75	.74	1.06	1.13
number of sexual partners	.03	.07	.19**	.17**	1.15	1.11	1.13	1.08
Minority stress								
concealment		-.03		.06		.96		1.56
internalized homonegativity		-.20***		-.07		1.53*		1.56**
negative social reactions		-.15*		.19**		1.08		1.54*
R^2	.14***	.19***	.12***	.16***				
Nagelkerke's R					.10	.14*[a]	.10	.17*

Note. None of the intercorrelations among the independent variables exceeded r = .42.
[a] The change from model 1 to model 2 is nonsignificant.
* $p < .05$; ** $p < .01$; *** $p < .001$

Table 6.4 Determinants of sexual health differences within the group of homo- and bisexual men (n = 158)

	sexual satisfaction (*Beta*)		sexual coercion (*Beta*)		sexual dysfunction (*Exp(B)*)		sexual health care need (*Exp(B)*)	
	model 1	model 2	model 1	model 2	model 1	model 2	model 1	model 2
Socio-demographic								
homosexual (versus bisexual)	-.02	-.15*	.14	.12	.84	1.87	1.45	1.53
age	-.07	-.12	.07	.12	1.02	1.03	.97*	.96
educational level	-.02	-.01	.01	.01	.74	.65	1.10	1.10
religious services attendance	.05	.02	-.16	-.17*	.97	.96	.79	.79
living area	-.03	-.03	.09	.10	1.38	1.36	.95	.95
Sexual behavior characteristics								
partner (versus no partner)	.21*	.22**	-.17	-.18*	.31*	.32*	.61	.60
number of sexual partners	.03	-.04	.14	.08	1.06	1.16	1.26*	1.24*
Minority stress								
concealment		-.03		-.06		2.61		1.04
internalized homonegativity		-.50***		.10		1.85*		1.14
negative social reactions		-.14		.19*		1.13		1.20
R^2	.05	.29***	.10	.14*[a]				
Nagelkerke's R					.15	.25*	.14	.15[a]

Note. None of the intercorrelations among the independent variables exceeded r = .28.
[a] The change from model 1 to model 2 is nonsignificant. * $p < .05$; ** $p < .01$; *** $p < .001$

Table 6.4 shows the results for men. Three of the four final models were significant, those for sexual satisfaction, sexual coercion and sexual dysfunction. In the models for sexual satisfaction and sexual dysfunction, a significant change was obtained by adding minority stress to the socio-demographic and sexual behavior characteristics.

Bisexual men and men with steady partners were more satisfied with their sex lives. The most important factor was one of the minority stressors: those men who had a relatively negative opinion of their own sexual orientation reported lower levels of sexual satisfaction. Minority stress was also an important factor when explaining sexual dysfunction: men with relatively high levels of internalized homonegativity reported sexual dysfunction more often.

In the models explaining sexual coercion and sexual health care need, the addition of minority stress did not raise the level of explained variance. However, the final model concerning sexual coercion included one minority stressor (in addition to being single and attending religious services more often) as a unique contributor: GB men with more negative reactions from others to their sexual orientation had more often been a victim of sexual coercion.

6.4 Discussion

The current study found differences between LGB and heterosexual people with regard to aspects of sexual health, notably sexual coercion and sexual health care need. Findings are in line with previous studies that also showed elevated levels of sexual coercion experiences among LGB individuals (e.g. Coxell et al, 1999; Henderson et al., 2009; Hughes et al., 2001; Ratner et al., 2003; Tomeo et al., 2001). However, no differences were found between LGB and heterosexual people with regard to sexual satisfaction or sexual dysfunction. The absence of differences with regard to sexual dysfunction seems to contradict previous studies (e.g. Bancroft et al., 2005; Henderson et al., 2009; Laumann et al, 1999), although results by Bancroft et al. also showed no significant difference between gay and heterosexual men when looking at the percentage of gay and heterosexual men reporting no sexual dysfunction at all. The differences in their study were found when looking at each dysfunction separately: gay men were more likely to report erectile dysfunction, and heterosexual men

were more likely to report rapid ejaculation. However, these differences in reports of specific dysfunctions were found in the 'occasionally experienced', and not in the 'most of the time experienced' category, suggesting that the differences do not meet the DSM-IV criteria for a sexual disorder (which state that a problem has to be "persistent and recurrent" and also cause "marked distress and interpersonal difficulty"). The distress criterion was not assessed in the above-cited studies (Bancroft et al., 2005; Henderson et al., 2009; Laumann et al, 1999).

The between-group analyses showed that differences in sexual health among sexual minority and heterosexual women could be attributed to differences in socio-demographics and sexual behavior characteristics, while among men, the differences could only partly be attributed to differences in these general factors. The within-group analyses among the LGB subsample showed that minority stress was a useful concept in explaining additional variance in sexual health among lesbian, gay, and bisexual people. Several minority stress factors were unique predictors. Internalized homonegativity was an important unique predictor of sexual satisfaction, sexual dysfunction and sexual health care need. The relationship between sexual dysfunction and internalized homonegativity is consistent with previous studies (Meyer, 1995; Meyer & Dean, 1995; Szymanski et al., 2008). The link between internalized homonegativity and sexual satisfaction may not be very surprising. It makes sense that those who do not accept their same-sex sexual attractions, are not, for example, very pleased with the emotional and physical sides of their sex lives. Other studies have found a relationship between minority stress and body image (Kimmel & Mahalik, 2005). The fact that internalized homonegativity was related to sexual health care need among women but not among men could possibly be explained by the fact that women are more likely to seek professional (psychological) help in the first place (e.g. Möller-Leimkühler, 2002; Ojeda & Bergstresser, 2008; Wang et al., 2007). Therefore, those women who have a negative attitude towards their same-sex attractions, may sooner look for sexual health care (e.g. a sexologist) than their male counterparts.

Another important minority stress factor was having experienced negative reactions towards one's same-sex attractions. The link between sexual coercion and anti-gay harassment could possibly be explained by the fact that some

sexual assaults follow after being identified as gay and/or assaults include anti-gay (verbal) abuse (Hickson et al., 1994; Walker, Archer & Davies, 2005). The anti-gay harassment and the sexual coercion experience may be the same event. Another explanation could be that becoming a victim of one form of assault can increase one's vulnerability to other assaults, just as one of the most profound predictors of becoming a victim of sexual coercion is having been victimized before (Gidycz, Hanson & Layman, 1995; Hines, 2007; Sandberg, Matorin & Lynn, 1999; Senn, Carey & Vanable, 2008; Young & Furman, 2008). Being a victim of sexual coercion is, in itself, already a harmful and disturbing life event, but may have severe consequences for other health areas as well (e.g. mental health or sexual risk behavior) (Arreola, Neilands, Pollack, Paul & Catania, 2008; Jinich et al, 1998). There are indications that the consequences for LGB people are even more severe (Hines, 2007) and may be intensified by minority stress (Gold, Dickstein, Marx & Levington, 2009; Gold, Marx & Lexington, 2006).

The current study had some limitations that should be addressed in future research. First of all, data collection took place as part of a large scale population study on sexual health among the general population, thus providing limited opportunity to use extended measures of various concepts. For example, internalized homonegativity was measured by only two items, while more extended and reliable scales exist (e.g. Nungesser Homosexuality Attitudes Inventory, Ross and Rosser's Internalized Homophobia Scale or Internalized Homonegativity Inventory; see for critical reviews Szymanski et al., 2008; Williamsen, 2000). The same is true for other measures in the current study, such as sexual coercion and negative social reactions. It is a disadvantage that this study could not make use of such validated scales.

The second major limitation was the recruitment of the sample and its response rate. The LGB participants were partly taken from the general population sample and partly recruited on websites of LGB organizations and, therefore, (partly) constitute a convenience sample. This might have clouded the results, since the sample is probably biased. For example, those LGB individuals who are not "out" or have high levels of internalized homonegativity might not visit LGB organization websites (where participants for the study were recruited). In addition to the different ways of recruiting LGB individuals, the response rate for

the general population sample was low. Only 28% of those invited to join the research filled out the complete questionnaire. This may also influence the results, since previous studies show that self-selection affects the outcomes of studies on sexuality (e.g. Catania, Gibson, Chitwood & Coates, 1990; Dunne et al., 1997; Wiederman, 1993).

Furthermore, only three minority stress processes were included. The influence of the other two processes mentioned by Meyer (2003) (expectancies of negative reactions and the protective influence of social support and social networks) remain to be examined. For example, having LGB friends might counteract the effect of one's own internalized homonegativity and, therefore, prevent a detrimental impact on, for example, one's positive sexuality experience.

In addition to the exclusion of two minority stressors, other potential confounders were not included in the study either. Sexual health is a broad concept influenced by many factors. All of these factors are potential explanations for sexual health differences between LGB and heterosexual individuals. For example, HIV status (especially among men) could be an important confounder, since HIV status is related to sexual coercion and (using) sexual health care (e.g. Friedman, Marshal, Stall, Cheong & Wright, 2008; Jinich et al., 1998; Valleroy et al., 2000). In addition, mental or physical health are also related to sexual health, and since these aspects differ between LGB and heterosexual individuals, they could (partly) explain the differences in sexual health (Vanwesenbeeck et al., in press; Cochran et al., 2003; Lauman et al., 1999; Meyer, 2003; Sandfort et al., 2006; WHO, 2006).

Another limitation of the study is its cross-sectional design. While it is possible to establish relationships between certain aspects, it is not possible to say anything about the direction of the relationships. For example, it is possible that internalized homonegativity causes less sexual satisfaction, but this correlation may also be explained the other way around: being less sexually satisfied could increase levels of internalized homonegativity.

Finally, we would like to point out that the current study was carried out using a Dutch sample. The Netherlands is known for a relatively tolerant attitude towards sexual diversity (European Union Agency for Fundamental Rights, 2009; Keuzenkamp & Bos, 2007; Štulhofer & Rimac, 2009). The results of the study should,

therefore, be confirmed by using samples from other countries, in order to investigate the external validity of our current results.
Despite these limitations this study has contributed to the existing knowledge regarding LGB persons and sexual health. It has shown that interventions aimed at reducing sexual health problems among LGB people must take both general aspects as well as LGB-specific factors into account. Even in the Netherlands, where societal attitudes towards homosexuality are relatively positive, LGB individuals still struggle with anti-gay harassment and internalized homonegativity and this influences one's (sexual) health. Furthermore, the study also shows that there is a backslide to the tendency to use an all-inclusive 'LGBTQIQY'-approach. While lesbian women did not differ from heterosexual women with regard to sexual health, bisexual women did. These problems can be overlooked when several sexual minorities are grouped together or if bisexuals are not included in samples at all. The same problem arises when women and men are grouped together. There were substantial differences between men and women with regard to the relationships between sexual behavior or minority stress and sexual health. When differences with regard to sexual orientation or gender are not taken into account, specific problems and their potential causes are overlooked and interventions promoting (sexual) health may not be effective for certain groups.

CHAPTER 7

GENERAL DISCUSSION

Previous studies have quite convincingly shown that LGB individuals report more problems regarding their mental, physical, and sexual health, as well regarding substance use and social wellbeing (e.g., loneliness) than heterosexual individuals. However, several important gaps remain in the current knowledge and understanding of factors that are associated with health differences between LGB and heterosexual individuals. In general, there is a lack of differentiation in research of health outcomes and related factors between subgroups in the LGB population, a lack of specific attention for older LGB individuals and LGB youth who grow up in relatively tolerant countries, and a lack of combined between-and-within-groups study designs that examine general and LGB-specific factors associated with health differences between LGB and heterosexual individuals. These remaining knowledge gaps need to be addressed to further conceptual understanding to guide the design of effective interventions and policies to improve the health of LGB individuals.

Taken together, the studies presented in this dissertation addressed these remaining knowledge gaps by aiming to answer three overarching research questions:

1. Do the associations between minority stress factors and mental health, sexual health, substance use, and social wellbeing differ between sexual minority women and men and between lesbian/gay and bisexual individuals?
2. Does the minority stress model provide a useful conceptual framework to explain health outcomes of ageing LGB individuals and of today's LGB youth growing up in a relatively tolerant society?
3. To what extent does a between-and-within-groups study design offer a useful approach to examine the factors that are potentially related to differences in the health outcomes of LGB and heterosexual individuals?

The answers to these three research questions, as derived from the empirical studies included in this dissertation, are presented

and discussed below. After considering answers to the research questions, remaining issues, general limitations of the presented studies and implications of the research findings are discussed, as are two concluding critical notes.

7.1 Do the associations between minority stress factors and mental health, sexual health, substance use, and social wellbeing differ between sexual minority women and men and between lesbian/gay and bisexual individuals?

The first research question focussed on potential gender and sexual orientation differences in the association between minority stress factors and various health outcomes.

7.1.1 Differences between women and men

Potential gender differences in the association between minority stress factors and health outcomes were addresses in the study examining gender differences in the association between minority stress factors and mental health outcomes of LGB adults (Chapter 2; Kuyper & Fokkema, 2011), in the study assessing associations between minority stress factors and substance use, sexual health, and social wellbeing of LGB youth (Chapter 5; Kuyper & de Wit, under review), and the study examining the association between minority stress factors and sexual health in LGB adults (Chapter 6; Kuyper & Vanwesenbeeck, 2011). In general, these studies found few gender differences in the associations between minority stress factors and various health outcomes for LGB individuals. Associations between minority stressors and mental health, sexual health, substance use, and social wellbeing were generally similar for women and men, suggesting that Meyer's (1995, 2003, 2007) minority stress model is equally useful for understanding the mental health, sexual health, substance use, and social wellbeing of sexual minority women and men.

Although in general few gender differences were found in the associations between sexual orientation and health outcomes, the studies of the mental (Chapter 2; Kuyper & Fokkema, 2011) and sexual health (Chapter 6; Kuyper & Vanwesenbeeck, 2011) of LGB adults do provide indications that some minority stress factors might be of more importance in explaining the mental and sexual health of sexual minority women than of sexual minority men. With regard to mental health, openness about one's LGB identity was more strongly associated with the mental health of sexual

minority women than sexual minority men; being open about one's LGB orientation seemed to be more beneficial for the mental health of women compared to men. Several explanations can be offered for this finding. Firstly, women and men have different models of self. For women, self-representations are generally more dependent on relationships with significant others, and their self-esteem, self-enhancement and wellbeing depends more on feeling related to others (Cross & Madson, 1997). Therefore, being open and honest about a sexual minority identity might have a stronger positive association with mental health among women than men, because this might enhance and deepen their intimate relationships with significant others. Furthermore, several studies have shown that feeling understood is more important to women's mental health (Flagerthy & Richman, 1989; Landman-Peeters et al., 2005; Lun, Kesebir, & Oishi, 2008; Rennemark & Hagberg, 1999). By being open about a lesbian/bisexual identity, women might feel more understood, and this might have a strong positive effect on their mental health. Another explanation for a stronger positive association between being open about their LGB identity and mental health among women than men is that societal attitudes towards sexual minority women are more positive than societal attitudes towards men (Kite & Whitley, 2003). Therefore, women may receive a more supportive reaction when being open about their sexual orientation and this might contribute to their mental health.

The study of the sexual health of LGB adults (Chapter 6; Kuyper & Vanwesenbeeck, 2011) yielded gender differences in the association between minority stress factors and two sexual health outcomes. Among lesbian/bisexual women, there was a significant association between more often experiencing negative social reactions regarding their sexual orientation and less sexual satisfaction, as well as an association between more often experiencing negative social reactions on their sexual identity and higher levels of internalized homonegativity and higher sexual health care needs. These associations were not found among gay/bisexual men. An explanation for the gender difference in associations between minority stress factors and sexual health care need might be that women, in general, are more likely to seek professional health care when experiencing problems (Möller-Leimkühler, 2002; Ojeda & Bergstresser, 2008; Wang et al., 2007). Therefore, encountering problems such as negative

reactions from others due to their sexual orientation or experiencing higher levels of internalized homonegativity might be a reason for women, but not for men, to seek sexual health care.

While gender differences were found in the association between minority stress factors and sexual health outcomes of LGB adults (Chapter 6; Kuyper & Vanwesenbeeck, 2011), no such differences were found in the association between minority stress factors and sexual health outcomes of LGB youth (Chapter 5; Kuyper & de Wit, under review). This disparity in findings for LGB adults and LGB youth could be due to potentially diminishing gender differences between lesbian/bisexual women and gay/bisexual men in younger generations. However, it is equally likely that the different findings regarding gender differences in the association between minority stress factors and sexual health for adults and youth are due to various methodological differences between the two studies, including a focus on different indicators for sexual health. While the study of LGB youth examined evaluations and skills related to sexual health outcomes (sexual self-esteem, sexual assertiveness), the study of LGB adults also included behavioral sexual health outcomes such as having experienced sexual coercion and sexual dysfunction, as well as reported sexual health care needs. A further explanation for different results for LGB adults and LGB youth might be the different data analysis approaches used in these studies. The study of sexual health of LGB youth examined potential differences in associations between minority stress factors and sexual health by examining the contribution of interactions between gender and various minority stressors to the explanation of sexual health indicators, while the study of sexual health of LGB adults made use of separate analyses for men and women regarding the associations of minority stress factors with sexual health outcomes. Due to these different methods of analyses, it could be argued that in the study of LGB adults, associations between negative reactions from others on one's LGB identity and sexual satisfaction, and between negative reactions from others on one's LGB identity and internalized homonegativity and health care need were only significant among women and not men because of the smaller size of the male sample (*N* women = 238; *N* men = 158).

7.1.2 Differences between lesbian/gay and bisexual individuals

The study examining associations between minority stress factors and mental health outcomes of LGB adults (Chapter 2; Kuyper & Fokkema, 2011), and the study investigating associations between minority stress factors and substance use, sexual health, and social wellbeing in LGB youth (Chapter 5; Kuyper & De Wit, under review) both addressed potential differences in the associations between minority stress factors and health outcomes between lesbian/gay and bisexual individuals. In general, and in line with results regarding gender differences, the associations between minority stress factors and sexual health, substance use, and social wellbeing did not differ between lesbian/gay and bisexual individuals. The only exception was the association between perceived negative reactions on their sexual orientation and the mental health outcomes of lesbian/gay and bisexual adults that was found to differ between lesbian/gay and bisexual individuals. Experiencing negative reactions due to one's LGB identity was significantly associated with mental health problems experienced by lesbian/gay adults, but not by bisexual adults. A potential explanation for this different association between experiencing negative reactions due to an LGB identity and mental health problems is that bisexual individuals encounter negative reactions from different sources or in different contexts (e.g., from within the LGB community). Different types of negative reactions on an LGB identity might be differently associated with mental health problems. Future studies should therefore include measures pertaining to different types of negative reactions (e.g., jokes, verbal offences, or physical violence) and different sources of negative reactions (e.g., heterosexual individuals or LGB individuals).

7.1.3 Summarizing the differences

To summarize, the studies presented in Chapters 2 (Kuyper & Fokkema, 2011), 5 (Kuyper & de Wit, under review), and 6 (Kuyper & Vanwesenbeeck, 2011) that addressed potential gender and sexual orientation differences in the association between minority stress factors and mental health, sexual health, substance use, and social wellbeing provide no reason to suspect that the usefulness of minority stress model works differs substantially for sexual minority women and men or for lesbian/gay and bisexual individuals. Most of the associations between minority stressor

factors and mental health, sexual health, substance use, and social wellbeing outcomes were similar for sexual minority women and men as well as for lesbian/gay and bisexual individuals. The results of the studies do, nevertheless, provide indications that some monitory stress factors might have a stronger association with specific mental and sexual health outcomes of sexual minority women than minority men, and for lesbian/gay individuals compared to bisexual individuals. However, while suggestive, the empirical evidence remains too scarce (and comparisons between studies are limited) to draw any firm conclusions regarding potential gender and sexual orientation differences in the associations between minority stress factors and mental and sexual health outcomes. Future studies are encouraged to strengthen the assessment of potential gender and sexual orientation differences by including similar numbers of women and men, and lesbian/gay and bisexual individuals and exploring interactions between gender, sexual orientation and minority stress factors when examining LGB's health status. In addition, future studies that examine potential differences between lesbian/gay and bisexual individuals in the associations between minority stress factors and health outcomes should include specific measures of minority stress factors related to a bisexual orientation. Previous studies, and also the studies included in this dissertation, suffer the drawback that the same measures of minority stress factors are used for lesbian/gay and bisexual participants. Including 'bi-specific' measures in future studies (for example the scale measuring internalized 'binegativity' of Sheets & Mohr, 1999) might provide a better reflection of the potential minority stress factors experienced by bisexual individuals and strengthen assessments of their association with health outcomes.

7.2 Does the minority stress model provide a useful conceptual framework to explain health outcomes of ageing LGB individuals and of today's LGB youth growing up in a relatively tolerant society?

The minority stress model was found to be a useful model to explain loneliness, one of the major health problems experienced by older LGB individual (Chapter 4; Kuyper & Fokkema, 2010). The minority stress factors, in particular experiencing negative reactions due to an LGB identity, expecting negative reactions due to an LGB identity, and the lack of an LGB social network, were

associated with loneliness, over and above general factors, such as individuals' general social network and self-esteem (Chapter 3; Fokkema & Kuyper, 2009; Chapter 4; Kuyper & Fokkema, 2010). These promising results should be confirmed in future studies, which might also aim to address other aspects of the health and wellbeing of ageing LGB individuals (e.g., mental health, sexual health, substance use). A further improvement of the current studies would be to include a larger and more divers sample of ageing LGB adults, which would allow for assessing potential gender and sexual orientation differences in the association between minority stress factors and health outcomes, including loneliness, of ageing LGB adults.

Despite growing up in The Netherlands, a country long known for its equality in legislation and tolerant attitudes towards same-sex sexualities (European Union Agency for Fundamental Rights, 2009a, 2009b; Keuzenkamp & Bos, 2007; Štulhofer & Rimac, 2009), today's Dutch LGB youth still experience substantial minority stress and minority stress factors are still associated with their sexual health and social wellbeing (Chapter 6; Kuyper & de Wit, under review). These results are in line with other studies recently conducted among LGB youth in The Netherlands and Flanders that found associations between minority stress factors and the mental health of young LGB individuals (Franssens, 2009; Van Bergen & Van Lisdonk, 2010; Vandenberghe, Dewaele, Cox, & Vincke, 2010). Future studies are encouraged to examine a possible explanation for the continuing impact of minority stress factors on health outcomes offered by Hegna and Wichsstom (2009) who reason that if LGB individuals come out at a (very) young age, it might be that their range of coping skills is still too limited to effectively deal with the feeling of being "different". This may result in minority stressors continuing to have an association with the health of LGB youth.

7.3 To what extent does a between-and-within-groups study design offer a useful approach to examine the factors that are potentially related to differences in the health outcomes of LGB and heterosexual individuals?

The studies examining general (Chapter 3; Fokkema & Kuyper, 2009) and LGB-specific factors (Chapter 4; Kuyper & Fokkema, 2010) associated with loneliness among LGB and heterosexual older adults and the study examining general and LGB-specific

factors associated with the sexual health of LGB and heterosexual adults (Chapter 6; Kuyper & Vanwesenbeeck, 2010) inform considerations of the usefulness of a between-and-within-groups study design to assess factors that are potentially associated with the health outcomes of LGB individuals. The use of a between-and-within-groups study design to understand loneliness of ageing LGB individuals and sexual heath outcomes of LGB adults yielded two important insights. Firstly, using a between-and-within-groups design could show that feelings of loneliness as well as sexual health problems of LGB individuals can be explained by general risk factors as well as by LGB-specific factors. To be most effective, interventions aiming to decrease sexual health problems among LGB adults or loneliness among elderly LGB individuals should therefore target both types of factors. Secondly, the use of a between-and-within-groups study design clearly showed the hypothesized, additive health compromising effects of minority stress factors. Minority stress factors were associated with feelings of loneliness of elderly individuals over and above general risk factors associated with loneliness among LGB and heterosexual adults alike. Minority stress factors were also associated with sexual health problems of LGB adults, over and above general risk factors for sexual health problems found among heterosexual and LGB individuals alike. These findings provide important and novel support for one of the main assumptions of the minority stress model (Meyer, 1995; 2003), that minority stress is a form of additive stress that is experienced by minority groups in addition to the stressors that are also experienced by members of the social majority, and that this additional stress takes its toll on LGB individuals and affects their health over and above general health risk factors.

7.4 Remaining questions

The studies reported in the current dissertation contribute novel knowledge of potential gender and sexual orientation differences in the associations between mental health, sexual health, substance use, and social wellbeing in the LGB population (Chapter 2; Kuyper & Fokkema, 2011; Chapter 5; Kuyper & de Wit, under review; Chapter 6; Kuyper & Vanwesenbeeck, 2011), strengthen understanding of the usefulness of the minority stress model in explaining the health outcomes of LGB youth and older LGB people, and illustrate the usefulness of between-and-within-groups

study designs to examine factors that are potentially associated with the health outcomes of LGB individuals. However, several questions remain in each of these three areas.

Regarding the lack of differentiation between gender and sexual orientation subgroups in the LGB population in studies of health outcomes and related factors, the preceding paragraphs argued that more research addressing gender and sexual orientation differences in the association between minority stress factors and health outcomes is needed. In addition, more research addressing potential gender and sexual orientation differences in the association between general risk factors and health outcomes is needed. To strengthen the evidence base of potential gender and sexual orientation differences it should become common practice for studies on the association between general and LGB-specific risk factors to examine potential gender and sexual orientation differences. This can be achieved by including interactions between general and LGB-specific risk factors and gender and sexual orientation in statistical models examining the association between general and LGB-specific risk factors and health outcomes of LGB individuals.

In addition to the lack of differentiation between lesbian, gay, and bisexual women and men in research examining the association between general and LGB-specific risk factors and health outcomes, there is another highly underrepresented minority group that in need of specific attention: transgender (T) individuals. Recent studies with transgender individuals show that they experience high levels of victimization (e.g., Hill & Willoughby, 2005; Nagoshi et al., 2008; Stotzer, 2009) and still face, also in The Netherlands, many legal problems such as the obligation to be surgically rendered irreversible infertile to be able to change the sex mentioned in official documents (FRA, 2009a; Hammerberg, 2009). Future studies should address minority stress factors among transgender individuals and the association between general and minority stress factors and health outcomes in the transgender population.

The current dissertation showed that the minority stress model is a useful conceptual framework for explaining loneliness of LGB elderly and the sexual health and social wellbeing of LGB youth growing up today in a relative tolerant society. To address the lack of specific attention for older LGB individuals and LGB youth growing up in relatively tolerant countries in studies of the

association between minority stress factors and health outcomes, it would be important to examine differences in the associations between minority stress factors and health outcomes in LGB individuals growing up and ageing in different times and different places. By examining potential differences in the relation between minority stress factors and health outcomes in LGB individuals growing up and ageing in different times and places, questions of whether improved social attitudes and legal equality positively affect the health of LGBT citizens, amongst others by reducing their experienced minority stress. Such a study would require collecting date of an LGB sample with a broad age range in multiple countries, using the same measures, research design, and sampling strategies. This type of study could truly examine the usefulness of the minority stress model in explaining the health problems of LGB individuals who age and grow up in different times and different places.

Regarding the lack of combined between-and-within-groups study designs that examine general and LGB-specific factors associated with health differences between LGB and heterosexual individuals, the current dissertation showed the usefulness of this type of design in explaining loneliness in LGB older individuals and sexual health in LGB adults. The preceding paragraphs already argued that more research using a combined between-and-within-groups study designs is needed to investigate other health outcomes, such as mental and physical health. An effective recruitment strategy for between-and-within-groups studies is reported by Bakker and Vanwesenbeeck (2006). These authors conducted a population study of sexual health in a representative population sample. In addition, they oversampled LGB participants by placing recruitment advertisements on LGB websites, which substantially increased the number of LGB participants. The large number of LGB participants allowed for between-group analyses of LGB and heterosexual individuals to examine potential differences in sexual health and assess general risk factors, and also enabled within-group analyses in the subsample of LGB participants examining the additional value of minority stress factors in explaining sexual health problems over and above the general risk factors.

7.5 General limitations

The major limitations and drawbacks of each presented study are discussed in the respective chapters. Some of the limitations apply to all studies presented in this dissertation and will be discussed below.

Firstly, all of studies in the current dissertation used a cross-sectional design that does not allow for inferences about cause and effect. While the minority stress model claims that minority stress factors influence health outcomes, associations could also be inverse. For example, LGB individuals with mental health problems such as anxiety or depressive symptoms might interpret the reactions of others regarding their sexual orientation as negative or hostile, while the other person had no negative or hostile intentions. Future studies using a prospective design should confirm the direction of effects between minority stress factors and health outcomes assumed in the presented studies.

A second limitation of the presented studies is that they were not designed to answer the research questions of the current dissertation. The data of the presented studies were initially collected to answer other research questions, and to answer the research questions addressed in this dissertation secondary analyses were performed on the already collected data. As the original studies were not designed to answer the presented research questions, measures of minority stress factors were not optimal. Most of the studies did not include all five minority stress factors and none of the studies used full, validated measures of minority stress factors. The omission of several minority stress factors in the different studies may have distorted the results as the different minority stress factors are not independent of each other. For example, openness about one's LGB identity is related to LGB social support (Beals, Peplau, & Gable, 2009; Morris, Waldo, & Rothblum, 2001). Therefore, future studies should aim to include all five minority stress factors when examining the association between minority stress and health outcomes. Also, future studies should use full, validated measures of minority stress factors. For example, reliable scales for internalized homonegativity are available (see for critical reviews Szymanski, Kashubeck-West, & Meyer, 2008; Williamson, 2000).

Another limitation of the studies presented in this dissertation concerns the samples and recruitment strategies. All samples are non-random samples of LGB individuals which were (partly)

recruited though LGB venues, websites, mailing-lists, and networks. This recruitment strategy may have yielded biased samples. For example, it seems likely that LGB individuals visiting LGB venues are more open about their LGB orientation, less negative towards their own sexual orientation, and have a broader social LGB network. However, it is important to note that potential recruitment bias was explored in the study of the association between minority stress factors and mental health in LGB adults (Chapter 2; Kuyper & Fokkema, 2011). This study included LGB participants recruited from a general population panel and LGB individuals recruited through LGB websites. Recruitment bias was explored by examining potential differences in levels of minority stress between participants recruited in different ways and no differences were found in the levels of minority stress.

7.6 Practical implications

Despite the remaining questions and the limitations of the presented study, the findings of the current dissertation hold implications for programs and policies to address the mental health, sexual health, substance use, and social wellbeing of LGB individuals. In general, there was one minority stress factor that was associated with problems in almost every health area (mental health, loneliness, sexual health, and social wellbeing), in every age segment (LGB youth, LGB adults, and LGB elderly), and in every subgroup of the LGB population (lesbian women, gay men, bisexual women, and bisexual men). Across all health outcomes and LGB individuals, experiencing negative reactions due to one's LGB identity was an important factor associated with health problems. Experiencing negative reactions due to an LGB identity was associated with mental and sexual health problems of LGB adults, with higher levels of loneliness among older LGB individuals, and with the social wellbeing and sexual health problems of LGB youth growing up today. Considering the consistent, positive association between experiencing negative reactions due to an LGB identity and diverse health problems, it seems justified that the focus of the latest policy letter of the Dutch Ministry of Education, Welfare, and Sports ([OCW], 2007), which is responsible for LGB policies, is on improving the social acceptance of LGB individuals and taking measures to tackle LGB violence and discrimination. If these policies and measures are successful in improving social acceptance and in reducing negative

reactions due to an LGB identity and violence against LGB individuals, these measures might substantially improve the health of LGB individuals. Monitoring the implementation and effects of these policies, and ensuring their continuation by the current government seems essential.

7.7 Two concluding critical notes

As a final point, two important notes must be made with regard to the presented studies in this dissertation. Firstly, there is no agreement on the best way to operationalize sexual orientation in quantitative self-report studies. Sexual orientation can be measured by self-identification (e.g., "How would you describe your sexual identity: lesbian, gay, or bisexual?"), the gender of a spouse or past and current sexual partners, and by sexual attraction to same-sex or opposite-sex partners. In addition, there is no agreement on the best way to categorize different subgroups in the LGB community. As Diamond noted in her book on the fluidity of sexual attractions, sexual behaviors, and sexual identities among women: "How many different men and women do you need to find attractive in order to qualify as bisexual? Is one single crush enough? Does it have have to be current, or does a single attraction in high school (or elementary school, or college, or the military, or that yoga retreat you attended two years ago) count too? Do the feelings have to be long-lasting? What about a single erotic dream, a tipsy kiss, or several nights of deep conversation and intense fireside flirting during a camping trip? What is the role of sexual behavior? Is a person's bisexuality more authentic if she acts on her attractions? What about fantasies? Are they more or less defining than attractions? Does considering the prospect of same-sex relationships make a person bisexual, or just open-minded?" (2008, pp. 94).

That the definition of sexual orientation is relevant when reviewing the results of the current dissertation is shown in studies that include different operationalizations of sexual orientation in their analyses of the association between sexual orientation and health outcomes (Hegna & Rossow, 2007; Marshall et al., 2008; Saewyc et al., 2009). These studies found different results when using different indicators of sexual orientation (Hegna & Rossow, 2007; Marshall et al., 2008; Saewyc et al., 2009). For example, the study by Hegna and Rossow (2007) showed that same-sex sexual behaviors and same-sex sexual attractions were differently

related to the social wellbeing of young LGB individuals; while same-sex sexual experiences were related to better social integration, same-sex attraction was related to lower levels of social integration. These results encourage future studies to replicate the findings of the current dissertation with various measures of sexual orientation and to examine the explanations for potential differences in findings depending on different operationalizations of sexual orientation.

The second important note concerns the question whether the glass if half full or half empty. The presented studies set out to find general and LGB-specific risk factors related to health problems in LGB individuals that could explain differences in health outcomes between LGB and heterosexual individuals. The studies addressed LGB individuals' mental health, sexual health, substance use, and social wellbeing to contribute to fighting these health problems in the future through evidence-based programs and policies. However, in focusing on health problems and differences between LGB and heterosexual individuals one can easily forget that, despite that LGB individuals report more health problems than heterosexual individuals, the majority of the LGB individuals do not report health problems or minority stress. To be more precise, the current dissertation also showed that half of the older LGB participants did not feel lonely and that the vast majority of participating LGB adults did not experience sexual health problems. In addition to assessing and explaining the health problems of LGB individuals, future studies should also aim to document, explain and understand the resilience of lesbian, gay, and bisexual youth, adults, and elderly individuals. Many LGB individuals seem to be doing just fine and successfully living their lives as sexual minorities in a heterosexual society.

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NEDERLANDSE SAMENVATTING

(SUMMARY IN DUTCH)

Dit proefschrift beschrijft vijf empirische studies die gericht zijn op het in kaart brengen van factoren die mogelijk gerelateerd zijn aan de slechtere gezondheidspositie van lesbische, homoseksuele en biseksuele (LHB) individuen. In de studies worden twee typen risicofactoren voor gezondheid onderzocht: algemene risicofactoren en LHB-specifieke risicofactoren. Algemene risicofactoren kunnen een rol spelen voor zowel LHB als heteroseksuele individuen, terwijl LHB-specifieke factoren alleen voor LHB individuen een rol spelen. Algemene factoren zijn bijvoorbeeld sociaaldemografische kenmerken, coping vaardigheden, stress en sociale steun. LHB-specifieke factoren zijn gebaseerd op het minderheidstress model van Meyer (1995, 2003, 2007) dat vier LHB-specifieke risicofactoren benoemd en een LHB-specifieke beschermende factor. De vier LHB-specifieke risicofactoren zijn het ervaren van negatieve reacties op een LHB oriëntatie, het verwachten van negatieve reacties op een LHB oriëntatie, het verbergen van een LHB identiteit en geïnternaliseerde homonegativiteit. De beschermende factor uit Meyer's model is het hebben van een LHB sociaal netwerk.

Alhoewel een aantal onderzoeken is uitgevoerd naar de factoren die mogelijk samenhangen met de gezondheidsverschillen tussen LHB en heteroseksuele individuen, blijft een aantal belangrijke vragen onbeantwoord. In dit proefschrift worden drie kennislacunes onderzocht: mogelijke gender en seksuele oriëntatie verschillen in de relaties tussen minderheidsstress en gezondheid binnen de LHB populatie, de bruikbaarheid van het minderheidsstress model voor het verklaren van gezondheidsproblemen onder LHB ouderen en onder LHB jongeren die opgroeien in een relatief tolerante samenleving, en de bruikbaarheid van een tussen-en-binnen-groepen onderzoeksdesign voor het in kaart brengen van mogelijke relaties tussen algemene en LHB-specifieke risicofactoren en gezondheid. De vijf studies die in deze dissertatie worden besproken

beantwoorden samen drie overkoepelende onderzoeksvragen die verband houden met deze kennislacunes:

1. Zijn de relaties tussen minderheidstress factoren en gezondheid hetzelfde voor LHB mannen en vrouwen, en voor lesbische/homoseksuele en biseksuele individuen?
2. Bieden minderheidstress factoren een verklaring voor de eenzaamheid onder LHB ouderen alsmede voor het welzijn van LHB jongeren die opgroeien in een relatief tolerante samenleving?
3. In hoeverre biedt een tussen-en-binnen-groepen onderzoeksdesign een bruikbare methode voor het achterhalen van risicofactoren voor gezondheidsverschillen tussen LHB en heteroseksuele individuen?

Deze onderzoeksvragen worden hieronder beantwoord.

Gender en seksuele oriëntatie verschillen in relaties tussen gezondheid en minderheidsstress factoren

Drie van de vijf studies (Hoofdstuk 2; Kuyper & Fokkema, 2011; Hoofdstuk 5; Kuyper & de Wit, under review; Hoofdstuk 6; Kuyper & Vanwesenbeeck, 2011) hebben in de analyses rekening gehouden met mogelijke verschillen tussen LHB vrouwen en mannen. De meeste relaties tussen verschillende minderheidstress factoren en mentale gezondheid, seksuele gezondheid, middelengebruik en sociaal welzijn verschilden niet voor LHB vrouwen en mannen. Het lijkt er dan ook op dat het minderheidsstress model zowel voor mannen als voor vrouwen bruikbaar is, en dat de verschillende minderheidstress factoren voor vrouwen en mannen dezelfde relaties vertonen met mentale gezondheid, seksuele gezondheid, middelengebruik en sociaal welzijn.

Er zijn twee bevindingen die hierop een uitzondering vormen. De studie naar een relatie tussen mentale gezondheid en minderheidstress factoren onder Nederlandse volwassenen liet zien dat het verband tussen meer openheid over een LHB oriëntatie en minder mentale gezondheidsproblemen sterker was voor vrouwen dan voor mannen (Hoofdstuk 2; Kuyper & Fokkema, 2011). Uit de studie naar de relatie tussen minderheidsstress factoren en de seksuele gezondheid van LHB jongeren (Hoofdstuk 6; Kuyper & Vanwesenbeeck, 2011) kwam naar voren dat er voor vrouwen een relatie bestaat tussen negatieve reacties krijgen op een LHB identiteit en seksuele tevredenheid, en tussen negatieve reacties

krijgen op een LHB identiteit, geïnternaliseerde homonegativiteit en de behoefte aan steun of hulp op het gebied van seksualiteit. Voor mannen werden deze relaties niet gevonden.

Twee studies onderzochten mogelijke verschillen naar seksuele oriëntatie in de relaties tussen minderheidsstress factoren en gezondheid (Hoofdstuk 2; Kuyper & Fokkema, 2011; Hoofdstuk 5; Kuyper & de Wit, under review). De meeste relaties tussen de verschillende minderheidsstress factoren en mentale gezondheid, seksuele gezondheid, middelengebruik en sociaal welzijn waren hetzelfde voor lesbische/homoseksuele en biseksuele individuen. Een uitzondering hierop vormt de bevinding uit de studie naar de mentale gezondheid van LHB volwassen (Hoofdstuk 2; Kuyper & Fokkema, 2011). In dit onderzoek bleken negatieve reacties van anderen op iemands LHB seksuele oriëntatie voor lesbische/homoseksuele individuen wel gerelateerd aan meer mentale gezondheidproblemen, maar voor biseksuele individuen niet.

Toekomstige onderzoek naar seksuele oriëntatie en gezondheid kan meer inzicht geven in mogelijke gender en seksuele oriëntatie verschillen in de relaties tussen (sommige) minderheidsstress factoren en (sommige) gezondheidmaten als consistent(er) zowel lesbische/homoseksuele als biseksuele vrouwen en mannen in de steekproef opgenomen worden én mogelijke gender en seksuele oriëntatie verschillen in de statistische analyses worden getoetst.

Minderheidsstress en de gezondheid van ouderen en jongeren

Minderheidstress factoren lijken een goede verklaring te bieden voor een van de grote problemen onder ouderen: eenzaamheid. Minderheidsstress factoren, en met name het ervaren van negatieve reacties op hun LHB oriëntatie, het verwachten van negatieve reacties en het ontbreken van een LHB sociaal netwerk, waren gerelateerd aan meer gevoelens van eenzaamheid. Deze minderheidsstress factoren waren ook gerelateerd aan eenzaamheid onder LHB ouderen als al rekening gehouden was met algemene factoren die een rol kunnen spelen bij gevoelens van eenzaamheid onder zowel heteroseksuele als LHB ouderen (zoals het hebben van een sociaal netwerk in het algemeen).

Ook voor het verklaren van het welzijn van jongeren lijkt het minderheidstress model bruikbaar. Ondanks dat Nederlandse

LHB jongeren opgroeien in een relatief tolerant klimaat waarin LHB en heteroseksuele individuen bijna gelijk zijn voor de wet, ervaren deze LHB jongeren nog steeds minderheidstress. De ervaren minderheidstress is ook gerelateerd aan hun seksuele gezondheid en sociaal welzijn. Deze bevindingen zijn in lijn met bevindingen uit andere onderzoeken die zijn uitgevoerd in Nederland en Vlaanderen naar de relatie tussen minderheidstress factoren en mentale gezondheid.

De studies onder LHB ouderen en jongeren laten zien dat voor beide leeftijdsgroepen het minderheidstress model een goede verklaring biedt voor de problemen die zij ervaren. Het minderheidstress model lijkt ook een bruikbaar model voor het verklaren van de gezondheid van LHB individuen die opgroeien of ouder worden in een relatief tolerant maatschappelijk klimaat. Voor een directe vergelijking tussen de relaties tussen minderheidsstress en gezondheid voor LHB ouderen en jongeren in verschillende sociale contexten, is een internationaal vergelijkend onderzoek nodig onder een grote groep LHB individuen uit verschillende leeftijdsgroepen die opgroeien en ouder worden in meer en minder tolerante samenlevingen.

De bruikbaarheid van een tussen-en-binnen-groepen onderzoeksdesign

Een tussen-en-binnen-groepen onderzoeksdesign is een bruikbare methode om de relatie te onderzoeken tussen algemene factoren die mogelijk de gezondheidsverschillen tussen LHB en heteroseksuele individuen verklaren als ook de additionele waarde te onderzoeken van minderheidstress factoren voor de verklaring van gezondheidsproblemen van LHB individuen (bovenop de algemene factoren). Deze gecombineerde onderzoeksopzet bestaat idealiter uit drie stappen. Eerst worden potentiële gezondheidsverschillen tussen LHB and heteroseksuele individuen in de steekproef onderzocht. Vervolgens wordt gekeken of deze mogelijke gezondheidsverschillen tussen heteroseksuele en LHB individuen blijven bestaan als algemene risicofactoren aan het statistische model worden toegevoegd. In de laatste stap worden LHB individuen geselecteerd, en wordt gekeken of het toevoegen van minderheidstress factoren aan het bestaande model (dat de algemene risicofactoren bevat) bijdraagt aan de verklaarde variantie van het model. De studies in dit proefschrift die gebruik maken van deze onderzoeksmethode (Hoofdstuk 3; Fokkema &

Kuyper, 2009; Hoofdstuk 4; Kuyper & Fokkema, 2010; Hoofdstuk 6; Kuyper & Vanwesenbeeck, 2011) laten zien dat zowel de algemene gezondheidsfactoren als de minderheidstress factoren een gedeeltelijke verklaring bieden voor meer eenzaamheid onder LHB ouderen en de slechtere seksuele gezondheid van LHB individuen. Ze bevestigen verder het belangrijke uitgangspunt van Meyer's minderheidsstress model (1995; 2003) dat minderheidstress een vorm van additionele stress is die door (seksuele) minderheden wordt ervaren bovenop andere stressoren waar iedereen (LHB of heteroseksueel) mee te maken krijgt.

Beperkingen

De gepresenteerde studies kennen een aantal beperkingen. Geen van de studies heeft een longitudinale onderzoeksopzet. Hierdoor zijn uitspraken over oorzaak-en-gevolg-relaties tussen minderheidsstress factoren en gezondheidsuitkomsten niet mogelijk. Ook was geen van de studies vooraf opgezet om de onderzoeksvragen van dit proefschrift te beantwoorden. Hierdoor zijn niet alle minderheidsstress factoren gemeten en is de manier waarop de minderheidsstress factoren gemeten zijn voor verbetering vatbaar. Tot slot maakte geen van de studies gebruik van een representatieve steekproef, waardoor de resultaten vertekend kunnen zijn.

Aanbevelingen

Ondanks deze beperkingen biedt het huidige proefschrift een aantal aanknopingspunten voor programma's en beleid gericht op het verbeteren van de gezondheid van LHB individuen. In alle gepresenteerde studies bleek één minderheidstress factor consistent gerelateerd aan gezondheidsproblematiek. Het bleek dat het ervaren van negatieve reacties op hun LHB identiteit gerelateerd is aan de mentale gezondheid, de seksuele gezondheid en het sociaal welbevinden van zowel lesbische vrouwen, homoseksuele mannen, biseksuele vrouwen en mannen, LHB ouderen en LHB jongeren. Deze consistente bevinding ondersteunt de roep vanuit maatschappelijke organisaties om maatregelen tegen anti-LHB geweld en ondersteunt het beleid dat vier jaar geleden is ingezet door het Ministerie van Onderwijs, Cultuur en Wetenschappen (2007), dat verantwoordelijk is voor de LHB emancipatie.

Twee kanttekeningen

Twee kanttekeningen zijn van belang bij het lezen van de studies. Ten eerste is er geen overeenstemming onder sociaalwetenschappelijk onderzoekers over de beste operationalisatie van seksuele oriëntatie. Seksuele oriëntatie kan onder andere gemeten worden met behulp van vragen over zelfbenoeming, het geslacht van sekspartners, of seksuele aantrekking tot het eigen of het andere geslacht. De gerapporteerde bevindingen dienen bevestigd te worden in studies die verschillende operationalisaties van seksuele oriëntatie hanteren.

De tweede kanttekening betreft de vraag of het glas halfvol of halfleeg is. De studies zijn uitgevoerd vanuit een motivatie om algemene en minderheidsstress risicofactoren te achterhalen voor gezondheidsproblemen van LHB individuen, met het doel een bijdrage te leveren aan toekomstige programma's en beleid gericht op het terugdringen van gezondheidsverschillen tussen heteroseksuele en LHB individuen. Door deze focus kan uit het oog verloren worden dat de meeste LHB individuen geen (ernstige) problemen ervaren. Anders gezegd: dit proefschrift laat ook zien dat de meeste LHB oudere onderzoeksdeelnemers níet eenzaam zijn en dat de meeste volwassen LHB deelnemers géén seksuele gezondheidsproblemen hebben. Naast toekomstig onderzoek naar de gezondheidsproblemen van LHB individuen, is ook onderzoek nodig naar de weerbaarheid van LHB individuen. Dit kan meer inzicht opleveren in de beschermende factoren die maken dat mensen die deel uitmaken van een seksuele minderheid zich prima voelen in een heterodominante maatschappij.

CURRICULUM VITAE

Lisette Kuyper was born in Utrecht on August 22, 1979. She graduated from high school (Schoter Scholengemeenschap in Haarlem) in 1997. In 1998, she started her study in psychology at Leiden University. During her bachelor study, she followed an Honors Research Trajectory and conducted a study on condom use in collaboration with Dr. Winnie Gebhardt. Lisette completed two masters programs (Clinical & Health Psychology and Cognitive Psychology) and graduated cum laude in 2004. After her graduation, she taught several courses at Leiden University before starting her job as a researcher at Rutgers WPF (Dutch expert center on sexuality). Over the past seven years, she investigated a broad range of sexuality related topics (e.g., condom use, STI/HIV testing, sexual orientation, sexual coercion, and positive sexual experiences). In 2008/2009, she was seconded at Utrecht University to conduct a study on unwanted sexual experiences and behaviors among young people. This laid the groundwork for a collaboration with John de Wit resulting in the current dissertation.

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