

The Costs Of Concealment: The Depleting Effects of Concealing Sexual
Orientation

by

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ABSTRACT

Keeping any secret is difficult, but hiding one's sexual orientation from important others is a unique form of secret keeping in that it is motivated by fears of being negatively stereotyped, rejected by loved ones, excluded, and discriminated against. The present research tested the hypothesis that concealing one's sexual orientation represents a unique layer of minority stress which is characterized by hypervigilance, paranoid social cognition, and anxiety. Two studies examined the consequences associated with acute and chronic concealment of sexual orientation. In Study 1, the acute effects of concealment were examined utilizing an imagined interaction paradigm in which participants vividly imagined, and talked through, real life interactions with important people in their lives. Following each imagined interaction, participants completed a set of cognitive, emotional, psychological, and physical measures. Imagining an interaction with a person who is aware of one's sexual orientation and by whom one has received a rejecting response produced increased state anxiety, decreased positive affect, increased negative affect, and increased time needed to accurately assess others' emotional expressions. Additionally, imagining an interaction with a person from whom one must conceal one's sexual orientation produced negative emotional effects that were equal to, or greater than, imagining an interaction with somebody who is not accepting of one's sexual orientation. In Study 2, a 30-day online diary study examined the cumulative impact of concealment on the cognitive, emotional, psychological, and physical health of gay and lesbian people. Every 3 days participants completed a series of measures which included questions about whether they had concealed their sexual orientation in the previous 3 days. Participants who reported concealing their sexual orientation at some point over the course of the 30 days reported more state anxiety, more negative affect, less positive affect, more physical, cognitive, and emotional burnout, and a greater number of physical symptoms, than participants who did not conceal their sexual orientation during those 30 days. Among those who concealed, they were worse off emotionally and physically during the periods in which they concealed, as compared with the periods in which they did not conceal. Combined, these two studies speak to the unique and significant costs associated with concealment of sexual orientation.

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DEDICATION

This thesis is dedicated to my late mother, Beverley May Fortune, whose warmth and love made me the person that I am today. I will forever miss our weekly phone calls and her snarky sense of humour. I know that she would be proud of this research and even more proud of me for staying the course to complete it.

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The Costs of Concealment: The Depleting Effects of Concealing Sexual Orientation

Keeping a secret is hard. Most people can recall the difficulty of trying to keep a secret about a surprise birthday party for a friend, or a Christmas gift purchased by one parent for another. The image of that Christmas gift buried under two sweaters on the top shelf of the linen closet looms heavy on the mind. Managing this secret may have involved worrying about slipping up and disclosing the secret, attempting to steer conversations away from topics related to the secret, or actively creating a distracting story to divert attention away from the secret. It is stressful to keep information from other people, no matter how benign the content and regardless of the consequences of accidentally revealing it. Bearing that in mind, pause for a moment and imagine then the difficulty associated with secret-keeping of a much deeper magnitude and of a much longer duration. Imagine keeping a secret about an important aspect of your social identity like your sexual orientation from important others such as your parents, siblings, close friends, and coworkers. This type of secret-keeping is not a temporary burden that can be relieved by the opening of a gift or the yelling of “surprise!” Rather, this reflects chronic concealment of an aspect of who you are and the lens through which you see and experience the world around you. You do not keep this secret because it could spoil someone else’s fun. You keep this secret because you live in a society which attaches negative stereotypes to non-heterosexual orientations and which often discriminates against those who identify as gay or lesbian. You keep this secret because you worry about the reactions you will receive from the most important people in your life. You worry that you will lose these important people, that they will be disappointed, ashamed, or even disgusted by you. You keep this secret because you worry that it will affect the way that you are treated at home, at school or work, and in the broader public

institutions of which you are supposed to be an equal member. This kind of secret-keeping has very real consequences in the daily lives of gay and lesbian people.

Considerable research has explored how possessing a visible or conspicuous stigmatized identity influences individuals' psychological and physical health (e.g., Allison, 1998; Clark, Anderson, Clark, & Williams, 1999; Crocker, Major, & Steele, 1998; Dion, 2002; Dohrenwend, 2000; Kessler, Mickelson, & Williams, 1999; Major, Quinton, & McCoy, 2002). Much of that body of research is founded upon the belief that the conspicuous nature of certain stigmatized identities renders these individuals particularly vulnerable to prejudice, discrimination, social exclusion, and in some cases even physical violence. To date, far less research has examined the experiences of those who possess the ability to conceal their devalued social identity and to "pass" as normal in society, such as those with non-heterosexual orientations, mental health challenges, or learning disabilities (Goffman, 1963). Unlike individuals with physical disabilities or ethno-racial minorities, the devalued aspects of the identities of individuals with concealable stigmas may go undetected by their interaction partners. Until recently, the widely held assumption was that these individuals were less vulnerable to psychological or physical harm because of the concealable nature of their identities. However, research has begun to shed light on the unique forms of stress that accompany such concealability, including hypervigilance, anxiety, paranoid social cognition, and social isolation (e.g., Chaudoir & Fisher, 2010; Chaudoir, Earnshaw, & Aniel, 2013; Pachankis, 2007; Quinn & Earnshaw, 2013; Santuzzi & Ruscher, 2002; Smart & Wegner, 2000). Despite significant positive shifts in public opinion about homosexuality and equal legal rights and protections in Canada, gay and lesbian people remain some of the most stigmatized members of society. Gay and lesbian youth continue to be bullied by their peers in schools (Taylor et al., 2011), and gay and lesbian adults continue to perceive

and experience discrimination in their places of study and work (Silva and Warren, 2009).

Within this climate, concealment remains a frequent, even daily reality for many gay and lesbian people who devote considerable time and energy to managing their “discreditable” social identity (Goffman, 1963, p. 4).

It is important at this stage to comment on the fact that the present research only included self-identified gay and lesbian people. The broader community to which gay and lesbian people belong includes many other sexual minorities, including bisexual, transgender, two-spirited, queer, questioning, and intersex people. The inclusion criteria utilized were in no way intended to diminish the importance of other sexual minorities’ experiences with concealment. Rather, the diversity of their identities and the complexity of their motivations for concealment fall beyond the scope of this project, and it would have been unethical to consider all sexual minorities as one homogenous group with identical experiences. The present research focused exclusively on self-identified gay and lesbian people, but future research will endeavor to explore the lived experiences of other sexual minorities.

The research presented here explored the unique costs associated with managing a concealable identity by examining the relationship between concealment of sexual orientation and measures of cognitive, emotional, psychological, and physical performance. Two studies tested the hypothesis that concealing one's sexual orientation results in a state of ego-depletion that manifests in a myriad of ways. A laboratory experiment examined how acute stress in the form of imagined concealment interactions affected participants’ working memory capacity, their ability to perceive facial expressions accurately and efficiently, their psychological well-being, their self-reported physical symptoms, and their salivary cortisol levels. A 30-day online diary study examined how chronic, day-to-day experiences with concealment influenced the

psychological well-being, experiences of cognitive, emotional, and physical burnout, and the adaptive and maladaptive health behaviours of gay and lesbian people.

Strategies of Concealment

Attempts to conceal one's sexual orientation can take on many forms including omission, redirection, fabrication, and avoidance. Omission involves intentionally leaving out stigma-relevant information when interacting with others. For example, a lesbian woman who is not "out" to her coworkers may just fail to mention any information about her personal life or romantic partners. This omission may facilitate her coworkers' assumption that she is heterosexual, but that is their assumption rather than her fabrication. DeJordy (2008) argued that this kind of "unintentional passing" may suffice in short-term interactions where little self-disclosure is the norm, but over the longer-term chronically omitting information about one's personal life may become increasingly difficult and arouse suspicion (p. 508). For example, if a lesbian woman works at a hospital for several years and none of her coworkers recall hearing about a significant other, they may start to find her behaviour odd and begin to ask more probing questions. Another form of omission involves gay or lesbian people failing to correct others' assumptions about their sexual orientation, choosing instead to go along with the assumption in that moment. For example, if a lesbian woman and her partner are at a restaurant for a romantic dinner together and the waiter asks, "Would you and your friend like separate bills?," by not correcting the waiter's false assumption, they may be said to commit an act of omission.

Another strategy of concealment involves redirection, or attempting to steer conversations and interactions away from stigma-relevant topics. A gay or lesbian person may steer the conversation away from their personal life and toward less threatening topics like recent news, sports, or the weather. Importantly, while they are not actively omitting information nor

going along with inaccurate assumptions, they are controlling the direction and flow of the interaction in ways that serve to maintain their secrecy.

A more complex form of concealment involves fabrication, or creating an alternate identity or narrative. If a gay man works in an accounting office and does not feel safe disclosing his sexual orientation to his coworkers or superiors, he may tell coworkers about the woman he is dating or portray himself as a sort of 'player' who casually dates many women. He may even go as far as showing his coworkers pictures of these supposed dates. He may flirt with female coworkers or comment on attractive women when in the presence of his coworkers. All of these behaviours are strategic and designed to deflect any suspicion about his sexual orientation. As long as his coworkers believe him to be heterosexual and have seen evidence of his dating history, they are unlikely to ask questions that he feels ill-prepared to answer. Similarly, a lesbian woman who is not "out" to her coworkers may face a dilemma when it comes to attending the office holiday party. Does she go alone, or does she bring a male friend whom her coworkers will likely assume she is dating? If she has already engaged in fabrication with those coworkers by claiming to be in a heterosexual relationship, she must remain consistent by bringing a male friend posing as her date. Thus, one fabrication can initiate a cascade of lies that must be maintained over the long-term, which is an extremely depleting task.

Finally, there may also be some gay and lesbian people who actively avoid contact with heterosexual people so that the threat of stigma-related conversations or awkward social interactions rarely arise. They may avoid certain establishments and social gatherings and they may build their social networks and leisure activities around other gay and lesbian people. However, such a strategy may prove difficult in a predominantly heterosexual world, and it may lead to increased feelings of social isolation. Importantly, avoidance—whether initiated by the

dominant group or the stigmatized minority—only serves to maintain stereotypes and stigma by limiting their exposure to evidence that contradicts their stereotypes, and precluding the well-established benefits of social contact (Allport, 1954; Pettigrew, Tropp, Wagner, & Christ, 2011)

The types of concealment strategies employed and the frequency with which they are employed vary considerably across gay and lesbian people and across social contexts. If a gay man works in an openly homophobic job, he may feel that fabrication is the only viable strategy to protect himself against homophobia and workplace discrimination. By contrast, if a lesbian woman works in a relatively diversity-friendly workplace but perceives one or two of her coworkers to hold homophobic attitudes, she may engage in omission by revealing very little about herself to those specific coworkers, failing to correct their heteronormative assumptions. Each of these strategies constitutes a form of “passing” as heterosexual (Goffman, 1963, p. 42).

Passing

History has documented the ways in which racial and religious minorities have tried to conceal their stigmatized identities from others, whether it was “light-skinned Black Americans trying to “pass” as Whites in pre-Civil Rights America or Jews trying to “pass” as Gentiles in order to gain admittance into Canadian universities during the age of Jewish quotas. Although times have changed and discrimination has become less explicit, hiding a stigmatized identity or “passing” is still prevalent” (Fortune & Inzlicht, 2006, p. 2). A person with a history of mental illness may try to conceal this history from new friends; a Muslim woman may try to shroud her religious identity to avoid Islamaphobia; and gay or lesbian person may try to hide their sexual orientation from family, friends, or coworkers. These examples all share a common thread: each of them represents a concealable stigmatized identity. Although early stigma researchers

(Goffman, 1963; Jones, Farina, Hastorf, Markus, Miller, & Scott, 1984) identified concealability as a critical dimension of stigma, it remains a relatively under-researched dimension.

Goffman (1963) made reference to concealability by drawing a distinction between an individual's virtual social identity and their actual social identity. A virtual social identity is ascribed to an individual by others based on their assumed group memberships, whereas the actual social identity is ascribed to an individual based on their actual group membership. Social identities such as gender or race may be more accurately and easily perceived than others, such as mental health status, religious affiliation, or sexual orientation (DeJordy, 2008). It is in these instances that a discrepancy arises between the individual's virtual and actual social identities. Goffman (1963) argued that when an individual realizes this discrepancy and acts in ways that serve to perpetuate the discrepancy, "passing" becomes conscious and intentional (p. 42). It is this discrepancy and the awareness of one's socially devalued status, among many other reasons, that lead gay and lesbian people to make the decision to conceal their stigmatized identity from others and to pass as heterosexual. This decision is not made lightly. Rather, research suggests that gay and lesbian people may engage in a series of threat assessments when evaluating the need to conceal from a given audience or in a given social context (see Jones & King, 2014).

Reasons for Concealment

Despite significant advances in terms of acceptance and rights for gay and lesbian people, those who deviate from the heterosexual norm continue to be socially stigmatized. Thus, many gay and lesbian people continue to learn that it is advantageous, if not entirely necessary for them to conceal their sexual orientation (Sylva, Rieger, Linsenmeier, & Bailey, 2010). Some people are quite selective in terms of who they "come out" to, and thus they are not "out" to everyone or in every domain of their daily lives (Griffin, 1992; Sedlovskaya, Purdie-Vaughns,

Eibach, LaFrance, Romero-Canyas, & Camp, 2013). This can result in feelings of disconnection among various domains in their lives, as they must maintain multiple, often contradictory social identities on a daily basis (Ragins, 2008). Unfortunately, there is evidence to suggest that their fears are justified as gay and lesbian people experience verbal harassment, threats of violence, social exclusion, and discrimination in the work force (see the recent meta-analysis by Katz-Wise & Hyde, 2012).

Sedlovskaya et al. (2013) hypothesized that concealment heightens the cognitive distinction between public and private selves. The authors noted that the concealment-disclosure dilemma is an ongoing, if not daily process for those with concealable stigmas, and that concealment of one's identity in public settings might make the distinction between one's public and private self-schemas more salient and cognitively accessible. Moreover, concealment involves considerable self-monitoring and hypervigilance which renders the public setting psychologically distinct from private settings. The authors found that the more gay participants reported concealing their sexual orientation at work, the shorter their response latencies were on the public-private schematization task, with shorter response latencies indicating greater accessibility of separate schemas for work and home. The greater the distinction between public and private selves, the more distress gay participants reported. Sedlovskaya et al. (2013) concluded that having access to a private context or safe space (such as one's home in which one can be one's authentic self), does offer some protective benefits. However, managing a self-concept that is segmented into private and public contexts threatens an individual's well-being. In essence, leading "a double life may lead to a divided self" (p. 695).

Sedlovskaya et al. (2013) equate concealment with "self-silencing" or a relational schema adopted by those with concealable stigmatized identities, which involves suppression of affect,

attitudes, and beliefs that could lead to conflict with important others (p. 697). This is a unique challenge faced by those with concealable stigmas who have the ability to hide but who may also face societal and internal pressure to do so. Those with visible or conspicuous stigmas cannot easily hide, but neither are they faced with the challenge of balancing multiple identities to different audiences.

However, the decision to conceal their sexual orientation is not solely motivated by fears of homophobic slurs, acts of discrimination, or physical violence. In fact, it is not necessary for stigmatized individuals to experience these extreme events in order to perceive that a social identity threat exists. Steele (1997) persuasively argued that stereotypes are “in the air” and that as long as targets are aware that negative stereotypes could be applied to them as a function of their group membership, the threat remains very real (p. 617). The process by which individuals with visible stigmas assess the social identity threat in a given situation is generally based on two factors. First, they engage in a probability assessment, or the likelihood of being stereotyped in that situation. Second, they look for individuating information about the other people in that social situation that could minimize the threat of being negatively stereotyped. Individuating information is largely based on stereotypes and meta-stereotypes about outgroup members (Wout, Shih, Jackson, & Sellers, 2009). However, given the uncertainty surrounding what other people know about them, the threat assessments used by individuals with concealable stigmas may be more complex and potentially more depleting.

Threat Assessments

Gay and lesbian people conceal their sexual orientation to varying degrees. In many cases they are "out" to some people in their life and not "out" to others. Put simply: not everyone gay and lesbian people encounter is aware of their sexual orientation. Moreover, their interaction

partners do not necessarily endorse negative stereotypes about gay and lesbian people. Thus, it would be cognitively inefficient and psychologically costly for gay and lesbian people to approach all social encounters with the same heightened perceptions of social identity threat. However, social environments do have the ability to evoke a sense of identity threat or identity safety in stigmatized individuals by establishing social identity contingencies between a given social identity and differential judgements, treatment, or opportunities (Steele, Spencer, and Aronson, 2002). Situational cues can be physical—a "One Man-One Woman" sign in the rear window of a vehicle, ideological—vocal opposition to same-sex marriage, or social—new neighbors from a rural part of Canada. Essentially, any person, place, or event that activates a stigmatized social identity can serve as a threat (Purdie-Vaughns, Steele, Davies, Dittmann, & Crosby, 2008).

For stigmatized individuals these cues are powerful signals and may — independent of actual experiences with a given social setting — induce feelings of identity threat (Purdie-Vaughns et al., 2008). Moreover, each stigmatized group may possess their own unique set of identity-based concerns. For example, Sedlovskaya & Purdie-Vaughns (as cited in Purdie-Vaughns et al., 2008) found that gay men were more attuned to social intimacy cues in workplace settings than were heterosexual men. The authors suggested that intimacy cues in the workplace raise the possibility that one's sexual orientation might be exposed and devalued.

Thus, gay and lesbian people who are concealing their sexual orientation may engage in a unique series of threat assessments. First, they may assess the probability of being "outed" as a gay or lesbian person in a given social context or to a given audience. Second, they may assess the probability of being accepted or rejected by that audience. Third, they may assess the severity

or importance of the consequences of rejection from each respective audience (see Dewaele, Van Houtte, Cox, & Vincke, 2013).

The first assessment involves determining what, if anything, the person you are interacting with knows about or assumes about you. This is a difficult task because sexual orientation can be more or less concealable with respect to stereotypically physical attributes and mannerisms. For example, lesbian women who appear more feminine and dress and behave in ways that are considered gender-appropriate are less likely to arouse suspicion in or to be negatively stereotyped by others. By contrast, a lesbian woman who falls on the more masculine end of the spectrum and whose short hair, clothing, and mannerisms violate gender-stereotypes, is more likely to be labeled a lesbian and treated as such. Assessing the probability of being "outed" depends on a number of factors, including with whom one is interacting, how one presents oneself to others with respect to appearance, and the social context. For example, certain social events, such as weddings or baby showers may increase the likelihood of stigma-related topics coming up in conversation. If the probability of being "outed" is high, individuals may conceal to avoid interpersonal rejection, exclusion, or discrimination. If the probability of being "outed" is low, concealment may be unlikely, but gay and lesbian people may remain vigilant.

The second assessment involves determining the probability of being accepted or rejected if one's sexual orientation is revealed to a given audience. This assessment may depend on macro-level factors such as the sociopolitical context or culture of their social location (i.e., living in a large metropolitan city versus living in small rural community), and individuating factors such as the interaction partner's level of religiosity and explicit political values. Gay and lesbian people may take into consideration other factors about their interaction partners such as with whom they are friends, where they work, and whether they grew up in an urban or rural environment. These

are just a few examples of small details that can influence the assessment of the likelihood of being rejected based on one's sexual orientation. These threat assessments may be based on individuals' perceptions and meta-stereotypes and as such, they are subject to considerable bias and inaccuracy. However, it is the perception of threat—and not the objective reality—that lies at the heart of the assessment of identity safety or the need to conceal.

The final assessment involves evaluating the importance or perceived consequences of being rejected by a given audience. A rejection from a casual acquaintance is unlikely to have the same impact as a rejection from a family member or close friend. Gay and lesbian people conceal because they fear losing the most important people in their lives, not necessarily the people who exist on the periphery of their daily lives. For example, those who know where their parents stand with respect to homosexuality may be quite accurate in their assessment of threat. However, for most gay and lesbian people, the situation represents one of considerable ambiguity and uncertainty. They may not know exactly how their family and friends will react, but they assume the worst and they are unwilling to risk the consequences. Baumeister and Leary (1995) argued persuasively that human beings have a fundamental need to belong and that anything that thwarts this basic need is perceived as a threat. For gay and lesbian people, the thought of losing their primary support network of family and friends may be too much to bear. They worry about the disappointment and shame their parents will feel upon finding out. These concerns extend outside of their personal lives and into the professional arena, as the workplace can be complex battleground for gay and lesbian people. Workplace dynamics frequently make it an inappropriate venue for discussion of one's sexual orientation. Many people question whether it is ever relevant to bring up in a work context. However, such a question comes from a heteronormative perspective in which one's heterosexual orientation represents the dominant,

assumed norm. When one's sexual orientation deviates from this norm, any reference to orientation takes on greater significance. When gay or lesbian people do speak about their partners, they are often accused of flaunting their sexuality or wearing it on their sleeves. Thus, while their heterosexual coworkers can speak freely about their partners and their children, gay men and lesbians feel that they must tread lightly. They are more likely to conceal if they feel that disclosing could result in social exclusion by coworkers, sexual harassment, loss of promotions, or job loss.

Each of these threat assessments interacts to produce situations that make gay and lesbian people more or less likely to conceal. For example: if the probability of being "outed" is low, the probability of being rejected is low, and the consequences of being "outed" are low, then concealment is unlikely to occur. This represents a relatively identity 'safe' situation. However, if the probability of being "outed" is low, but the probability of rejection is high, and the consequences of rejection are high, then concealment may become more likely. The threshold of risk may be quite low if one believes that even a small probability of a costly rejection exists. If the probability of being "outed" is high, but the probability of being rejected and consequences of that rejection are low, this may represent another 'safe' situation in which gay and lesbian people feel they have found an accepting audience. In contrast, the situation most likely to elicit concealment is one in which the probability of being "outed" is high, the probability of being rejected is high, and the perceived consequences of that rejection are significant. An example of such a situation might be the potential for one's parents or close friends to find out that one is gay or lesbian. It is important to consider the overall impact on the individual when these three assessments are combined. Individually, each threat assessment has the potential to

be depleting, but when a gay or lesbian person is trying to process all three assessments simultaneously, and with multiple audiences, the depleting effects could be magnified.

An additional cost of concealment stems from the fact that once a gay or lesbian person makes a decision to conceal to a family member, friend, or coworker, they set in motion a cycle of further concealment because they must keep up the charade. Even if at some later date they feel ready to tell these people that they are gay or lesbian, they now find themselves in the uncomfortable position of not only disclosing a stigmatized identity, but also revealing that they have been lying to these important people for weeks, months, or even years. Those to whom they disclose their sexual orientation may not only respond negatively to the identity disclosure, but also to the fact that they were lied to. These individuals might interpret the concealment as reflecting the gay or lesbian person's low opinion of them, for example, assuming that they would be homophobic or respond with disgust. They may feel deceived by the stories the individual fabricated in order to conceal. In some cases, the feelings of betrayal may be more damaging to the relationship than the new knowledge of the sexual orientation of the individual.

The fact that threat assessments are often based on false assumptions and biased perceptions means that they can lead to paranoid social cognition: a state of dysphoric-consciousness characterized by feelings that one is under intense scrutiny from others and by unjustified suspicions and doubts about the trustworthiness of others (Kramer, 1998). Fenigstein (1979) and Gilovich, Medvec, & Savitsky (2000) demonstrated that a self-as-target bias often accompanies heightened states of self-consciousness such that individuals who possess stigmatizing characteristics are more likely to assume that they are targets of the words and actions of others. The outcome of this assumption is a biased impression of the other actor or biased metaperceptions (Kenny & DePaulo, 1993). In fact, Zimbardo, Andersen, & Kabat (1981)

argued that paranoid social cognition sets in motion a series of dysfunctional interaction dynamics that lead to self-fulfilling prophecies. Their distrust, suspicion, negative metaperceptions and overly personalistic construal of others' actions may lead them to behave in ways that actually elicit negative behaviour from others and thus perpetuate their continued need for vigilance in social interactions.

Pressures to Disclose

The pressure faced by gay and lesbian people to conceal is often met by an equal but opposite pressure to disclose or "come out." The pressure to "come out" may come from within, from their partners, and from the broader community. Many gay and lesbian people spend at least some part of their daily life wearing a mask or pretending to be a person that they are not because the consequences of "coming out" seem too much to bear. This may engender feelings of dishonesty and inauthenticity (Bosson et al., 2012, Pachankis, 2007). They may feel ashamed of themselves for not having the courage to just "come out" and tell people that they are gay or lesbian. This may be particularly true among those with lower levels of internalized homophobia. These individuals tend to view their stigmatized status as arbitrarily imposed on them by a heterosexist society and have difficulty justifying their decision to conceal. The chronic uncertainty associated with concealment represents a unique form of cognitive dissonance—an aversive psychological state in which your actions do not match with your beliefs (Festinger, 1957). The motivation to reduce this aversive state is high, and those gay and lesbian people who are concealing are not able to reduce this state through disclosure, so they must cope with it through justifying their concealment. Such justifications may include concern for the harm their disclosure would have on their interpersonal relationships or career trajectories.

Pressure to "come out" may also come from the person they are in a relationship with, particularly if that person is more "out" than they are. Romantic partners may tire of the concealment, interpreting it as their partner being ashamed to be with them rather than as reflecting a self-protective strategy. The concealed partner may feel excluded from important aspects of their concealing partner's life and may come to resent the rigid boundaries established between their partner's personal and public lives. There is also pressure from other gay and lesbian people to stand and be counted, because in the world of stigmatized or marginalized groups there is strength in numbers. In this sense, it is increasingly frowned upon to be gay and to remain hidden. Individuals who choose to conceal their sexual orientation are accused of contributing to the invisibility of the community, and are made to feel as if they are betraying other gay and lesbian people (Hegna, 2007). Notably, early research on gay identity development characterized the process as a linear one, in which "coming out" and embracing one's sexual orientation was presented as the pinnacle act of self-actualization (Cass, 1996; Troiden, 1979). Thus, gay and lesbian people who conceal may experience feelings of shame and perceive that their concealment is a reflection of immaturity or stunted development.

These pressures combine to produce a no-win situation for gay and lesbian people. If they conceal, they may avoid interpersonal rejection, prejudice, and discrimination, but they might be perceived as traitors by other members of the gay and lesbian community to which they belong.

Thus, for many gay and lesbian individuals, attempts to reach out to similar others carry with them the added pressure to be "out and proud." They are torn between wanting to trust people and to disclose to them, and feelings of uncertainty and fear about the ramifications of their disclosure. They are torn between concealing their sexual orientation in order to avoid social exclusion from the heterosexual community, and disclosing their sexual orientation in

order to gain social support from similarly stigmatized others. It is a double-edged sword. In order to relieve their “private hell,” many feel that they must disclose their sexual orientation and accept whatever negative consequences await them (Smart & Wegner, 1999, p. 229). It is this pressure that brings so many gay and lesbian people within minutes of making an important disclosure, only to have a passing comment by their interaction partner sway them back into hiding. That is: gay or lesbian individuals approach someone whom they value and trust, and just before they reach their goal of disclosing their sexual orientation, the overwhelming fear of rejection overrides their desire for intimacy and acceptance, and they retreat. They are then left to feel shame or guilt for remaining concealed; a pressure too often placed on them by other gay men and lesbians who have already navigated these difficult disclosures.

Stress and Coping Framework

Stress and coping frameworks (e.g., Lazarus & Folkman, 1984; Meyer, 2003) focus on how a stressor, or series of stressors, initiates a cascade of psychological and physiological mechanisms, which influence psychological well-being and physical health. The Minority Stress Model (MSM; Meyer, 1995) describes minority stress as psychosocial stress derived from minority status. Gay and lesbian people, like members of many other minority groups, are subject to chronic stress stemming from their stigmatized social identity. A minority stress approach builds on the broader stress literature (Dohrenwend, 2000; Pearlin, 1989) in proposing that stigma-related stress leads to adverse mental health outcomes. Thus, when an individual finds his or herself in a minority position within a stigmatizing and discriminatory social environment, the conflict that arises between his or her identity and the beliefs of the dominant culture can be stressful (see Clark et al., 1999; Herek, 2000; Lazarus and Folkman, 1984). The social environment is intended to help people assign meaning and organization to their life

experiences, so when they receive negative feedback from others, it may contribute to poorer psychological well-being (Crocker & Major, 1989; Jones et al., 1984). When minority individuals are labeled as deviant, they often develop maladaptive coping mechanisms which contribute to poorer psychological well-being (e.g., Link & Cullen, 1990). Allport (1954) referred to these as traits resulting from victimization or defensive reactions, which include self-hate and obsessive concern with the stigmatizing characteristic.

Minority stress encompasses internalized homophobia, anticipated stigma, and actual experiences with discrimination. Meyer's (2003) Minority Stress Model (MSM), and the broader stress models upon which it was based, clearly apply to the experiences of individuals with visible stigmas. The generalizability of these models to individuals concealing their stigmatized identity is somewhat unclear. Undoubtedly, many individuals living with concealable stigmas suffer from internalized homophobia, anticipated stigma, and they experience some forms of discrimination. However, over and above these experiences, they also suffer minority stress in the form of the costs associated with concealment. Although concealment is often framed as a personal choice, it may not be perceived as such by many gay and lesbian people. Hetrick and Martin (1987) describe the process of learning to hide one's sexual orientation as the most common coping strategy utilized by gay adolescents. Thus, for some gay and lesbian people, concealment is perceived as a means of survival in a discriminatory world and as such, constitutes a unique and additive form of minority stress.

Minority Stress and Concealing Sexual Orientation

When gay and lesbian people conceal their sexual orientation they also conceal other aspects of their lives, including with whom they are in a relationship, their leisure activities, and their plans, hopes, and dreams for the future. The fact that they are concealing many aspects of

their lives means that they must be particularly vigilant during certain social interactions. When concealment occurs in social contexts like a family dinner, a visit to their doctor, or a job interview, gay and lesbian people may engage in a form of mental rehearsal to ensure a smooth social interaction. They may play through many scenarios in their mind in order to anticipate how the interaction might proceed, what they might have to do in order to direct or control the interaction, and how much information they are willing or able to reveal. Their hypervigilance extends beyond merely what is said, to regulating their tone of voice, their style of dress, and their body language. If they have concealed their sexual orientation in the past, they must also carefully monitor their disclosures for consistency. Considerable cognitive and emotional energy goes into taking on the perspective of their interaction partner. This active monitoring can be taxing and may result in a state of ego-depletion in which gay and lesbian people have less self-regulatory strength left to accurately perform cognitive tasks, regulate their emotions, and maintain good mental and physical health.

Ego Depletion

At the heart of Meyer's (2003) minority stress model is the notion that stress faced by minorities is unique, additive, and has significant psychological and physical health costs. Minority stress is also associated with uncertainty and hypervigilance, which can drain an individual's self-regulatory capacity. Failures of self-control have been referred to as the "defining problem of modern society, responsible for problems like depression, violent crime, and drug abuse" (Baumeister, Heatherton, & Tice, as cited in Inzlicht, 2006, p. 263). Self-control is the mental effort individuals exert to regulate various aspects of their behaviour (Muraven & Baumeister, 2000). Monitoring the impression you are making on others, controlling your

emotions, and making healthy, adaptive health choices all tap into an individual's self-regulatory resources (e.g., Muraven, Tice, & Baumeister, 1998; Vohs, Baumeister, & Ciarocco, 2005).

Inzlicht and Kang (2010) argued that the self-regulatory resources of the chronically stigmatized are heavily taxed and this can result in subsequent losses of self-control. Concealing one's sexual orientation involves hypervigilance, active self-monitoring, suppressing stigma-related thoughts, regulating one's emotions, and avoiding situations in which stigma-related topics might arise. Each of these tasks taps into their self-regulatory strength, or "the internal resources that are available to inhibit, override, or alter responses" (Schmeichel & Baumeister, 2004, p. 86). Self-regulatory strength is a limited resource, meaning that using it on one task, such as concealing your sexual orientation, leaves less available for later effortful tasks (Muraven & Baumeister, 2000). There is considerable support for the notion that suppressing cognitions and emotions can contribute to subsequent losses of self-control. These may be manifested through "aggressive responding (DeWall, Baumeister, Stillman, & Gailliot, 2007), overeating (Vohs & Heatherton, 2000), overreliance on heuristics to make decisions (Masicampo & Baumeister, 2008), and unfocused attention (Inzlicht & Gutsell, 2007)" (as cited in Inzlicht & Kang, 2010, p. 468).

The effort associated with concealing may leave gay and lesbian people with fewer self-regulatory resources left to deal with the many challenges that make up daily life. Concealing may deplete their self-regulatory resources to the point that they are unable to devote their full attention to cognitive tasks, to accurately recognize others' emotional expressions, and to make adaptive health-related choices while avoiding maladaptive ones. Inzlicht and Kang (2010) refer to these as the "small victories" of self-regulation and suggest that these small victories are less frequent for the stigmatized (p.480). The present research tested two hypotheses: that

concealment exacerbates the existing challenges faced by individuals with concealable stigmas, resulting in significant cognitive, emotional, and physical depletion, and that concealment may result in even more negative effects than disclosure of sexual orientation that is met with social rejection. The latter hypothesis had not been formally tested in the existing literature but given the emerging evidence of the unique costs associated with concealment, I hypothesized that the suppression and regulation involved with concealment might actually be more detrimental to gay and lesbian people than dealing with rejection based on disclosure. When concealing their sexual orientation, gay and lesbian people are deprived of the opportunity to solicit social support from similarly stigmatized others—a key coping mechanism used by stigmatized individuals. Moreover, their inability to precisely gauge the awareness and attitudes of their interaction partners means that they are likely to engage in ongoing impression management and to be hypervigilant to cues of social identity contingencies. Although rejection by important others may be stressful and painful, knowing where one stands with these people may allow gay and lesbian people to utilize more adaptive coping strategies (e.g., making attributions to prejudice) and reduce their constant reliance on identity management strategies.

Summary

Concealment involves managing every aspect of your communication with others. It involves controlling and directing conversations in order to deflect suspicion. It means being caught between the desire for support and validation from similarly stigmatized others and the desire to be treated as an equal by the nonstigmatized majority. It is a chronic and additive layer of minority stress that is unique to those living with concealable stigmatized identities. It taxes the individuals' limited self-regulatory strength and exacts a significant toll on gay and lesbian people. The present research examined the cognitive, emotional, psychological, and physical

costs associated with concealing one's sexual orientation and explored whether concealment of sexual orientation results in negative effects that surpass those experienced as a result of rejection based on sexual orientation.

Cognitive Depletion

While being vigilant to social cues of suspicion or rejection and carefully monitoring their own self-presentation, gay and lesbian people still need to function effectively in their daily lives. This requires them to complete a variety of tasks that involve significant cognitive resources. Some examples include driving a vehicle, completing written tasks at work, and taking tests in an educational setting. These tasks may require an individual to focus their attention, to organize their thoughts, and to hold items in their short-term memory. Importantly, these tasks also tap into an individual's limited self-regulatory capacity. Thus, when a gay or lesbian person is trying to conceal their sexual orientation and trying to complete these everyday cognitive tasks, something might have to give. Johns, Inzlicht, and Schmader (2008) summarized the existing literature on the cognitive effects of stereotype threat, noting that cognitive depletion is evidenced through increased accessibility of stigma-related thoughts (Inzlicht, Aronson, Good, & McKay, 2006; Steele & Aronson, 1995), increased frequency of negative thoughts (Cadinu, Maas, Rosabianca, & Kiesner, 2005), reduced working memory capacity (Beilock, Rydell, & McConnell, 2007), and increased cognitive load (Croizet, Despres, Gauzins, Huguot, & Leyens, 2004). Although the depletion associated with stereotype threat does not directly map onto the depletion associated with trying to conceal one's sexual orientation, their disruptive cognitive consequences may operate in a similar manner.

The cognitive preoccupational model of secrecy (Lane & Wegner, 1995; Smart & Wegner, 1999) examined the intrapersonal processes faced by individuals who conceal a

stigmatized identity. Lane and Wegner found that preoccupation with thoughts of the stigma interfered with psychological well-being and social functioning through the following sequence of events. First, keeping something like a stigmatized identity a secret causes stigma-related thoughts to be suppressed; suppression leads to thought intrusions; thought-intrusions lead to increased efforts to suppress stigma-related thoughts, and the cycle continues as long as the information is being kept secret. Thought intrusions can also lead to fixed thinking in which the secret consumes a significant portion of an individual's daily life (Wegner & Lane, 1995). Smart and Wegner (2000) suggested that concealing a stigmatized identity has unique hidden costs not shared by individuals with a visible stigma and labeled the cognitive preoccupations associated with concealing one's stigma a "private hell" (p. 229).

This preoccupational model may be particularly relevant to gay and lesbian people because most are "out" in some domains of their lives and not in others. This sets them up to experience preoccupation with the secret and to actively attempt to suppress distracting stigma-related thoughts. For example, if a young man wants to reveal his sexual orientation to a classmate but feels he cannot do so, he may find himself constantly thinking about how he is keeping this secret from his classmate. This increased accessibility of stigma-related thoughts perpetuates his preoccupation with the stigma, and the cycle continues.

In the present research cognitive depletion was assessed in two ways. In the imagined interaction study, cognitive depletion was assessed using a modified reading-span task developed by Schmader & Johns (2003) to assess working memory capacity. Working memory capacity refers to the type of memory that is used when individuals focus their attention on temporarily activated information of interest while inhibiting other information that is irrelevant to the task at hand. Working memory capacity includes both storage of information and overall attentional

capacity (Engle, Tuholski, Laughlin, & Conway, 1999). People with greater working memory capacity have been shown to suppress task-irrelevant information more effectively (Rosen & Engle, as cited in Schmader and Johns, 2003). In the diary study, cognitive depletion was examined by measuring participants' self-reported cognitive weariness, a subscale of the Shirom-Melamed Burnout Questionnaire (Melamed, Kushnir, & Shirom, 1992), which focuses on individuals' daily difficulties with concentration and attentional focus.

Emotional Depletion

Emotion regulation is considered a crucial component of socioemotional competence. The ability to effectively regulate one's emotions thus represents a "critical challenge for intrapersonal and interpersonal functioning" (Southam-Gerow & Kendall, 2001, p. 193). Attempting to conceal one's sexual orientation from others requires significant emotional regulation which is an effortful process that draws heavily upon an individual's self-regulatory resources. From a stress and coping perspective, situations in which one feels that one must conceal arouse feelings of uncertainty and anxiety, which motivate them to suppress or regulate the negative thoughts and feelings they are experiencing (see Avero, Corace, Endler, & Salvo, 2003; Skinner & Brewer, 2002). When experiencing these situational threats, gay and lesbian people may attempt to suppress both their internal emotional experience and their external expressions of emotions (Johns, Inzlicht, & Schmader, 2008). Thus, effective concealment requires considerable emotional regulation and could leave them feeling depleted. This state of depletion may be manifested in a number of ways, including a sort of emotional fatigue and deficits in emotional expression recognition akin to deficits in empathy.

Accurate recognition of emotional facial expressions is one component of empathic responding. Facial expressions of emotion help to convey a person's emotional state, needs,

intentions, attitudes, and evaluations. Thus, the inability to accurately identify others' facial expressions can have a negative impact on social interactions (see Persad & Polivy, 1993). For example, depressed individuals often have difficulty detecting positive affect, which may lead them to misinterpret the feelings of others, subsequently reducing their motivation to approach others. Depressed individuals have demonstrated a readiness to attend to negative cues in their social environment and from their interaction partners, which may contribute to their perceived lack of social support (e.g., Gotlib & Hammen, 1992).

Sassenrath, Sassenberg, Ray, Scheiter, and Jarodzka (2014) examined the relationship between facial affect recognition, a routinely executed and well-learned task, and two motivational orientations: promotion and prevention-focused. The authors hypothesized that the approach orientation intrinsic to a promotion focus would encourage rapid shifts of attention at the encoding stage, whereas the hypervigilance and fear intrinsic to a prevention focus would encourage more continuous attention at the encoding stage. Thus, the authors posited that these attentional strategies might respectively support or undermine successful facial emotion recognition. Indeed, these hypotheses were confirmed when after experimentally inducing a promotion or prevention focus, participants evidenced more accurate facial affect recognition in a promotion focus than in a prevention focus. This research has clear implications for gay men and lesbians who are concealing their sexual orientation. Concealment not only arouses anxiety, uncertainty, and other negative emotions, but it may also place gay and lesbian people in a prevention-focused motivational state. Concealment involves a sustained effort to avoid making errors, whether those errors involve slipping up and disclosing stigma-related information or inaccurately reading the facial affect of their interaction partners. Concealment involves tremendous self-focus, both in terms of cognitive accessibility of stigma-related thoughts, but

also through regulation of emotional states. The present research examined whether this attention to one's own thoughts and emotions, combined with a general prevention or avoidance-orientation, would contribute to poorer facial affect recognition.

In the imagined interaction laboratory study, the accuracy of emotional expression recognition was assessed using the Montreal Set of Facial Displays of Emotion (MSFDE; Beaupré & Hess, 2000). In the diary study, emotional depletion was assessed using the emotional exhaustion subscale of the Shirom-Melamed Burnout Questionnaire (Melamed, Kushnir, & Shirom, 1992). Emotional fatigue involves feeling like one is unable to be sensitive to the needs of others, is incapable of investing emotionally in relationships with others, and is not capable of being sympathetic toward others.

Psychological and Physical Health Costs Associated with Concealment

A growing body of research has examined the differential health outcomes experienced by certain minority groups. It focuses on the costs of discrimination and frames racism, for example, as a psychosocial threat (see Clark et al., 1999; Hatzenbuehler, Phelan, & Link, 2013; Mays, Cochrane, & Barnes, 2007; Shavers & Shavers, 2006). Racism often results in inequitable access to material, social, and educational resources, which then directly and indirectly influence the psychological and physical health of minority groups. The direct effects may be seen in poor access to health care resources or in a poor diet. The indirect effects may be seen in the influence of stress on psychosocial resources and positive and negative affect (Adler & Snibbe, 2003; Gallo & Matthews, 2003). When conceptualized as a public health threat, it becomes apparent that exposure to race-based mistreatment can influence how minority groups interpret and cope with stress, alter the dynamics of their interactions with others, and increase their risk of developing stress-related health issues over time (see Hatzenbuehler, Phelan, and Link, 2013).

Although race-based and sexual orientation-based discrimination are not equivalent, this body of research provides a foundation from which to approach the health consequences associated with concealing sexual orientation. Many gay and lesbian people experience social exclusion, ostracism, barriers in education and the workforce, and discrimination. When they attempt to conceal their stigmatized identity, this may increase the health risks associated with their minority status. Gay and lesbian people who are concealing their sexual orientation may not face the same blatant discrimination as visibly stigmatized people, but this is predicated on their secrecy, and they must actively work to conceal their identity from family, friends, coworkers, managers, and casual acquaintances. Moreover, the fact that they can conceal their sexual orientation does not render them immune to hearing and witnessing blatant discrimination, nor does it absolve them of feelings of anxiety and social isolation. Hatzenbuehler, Bellatorre, Lee, Finch, Muennig, & Fiscella (2014) examined the health consequences of exposure to structural forms of stigma on sexual minorities and found that even after controlling for individual and community-level risk factors, structural stigma was strongly associated with premature mortality among sexual minorities. These authors argued that psychosocial stress associated with stigma may represent an indirect pathway through which structural stigma contributes to mortality. Sexual minorities' experiences' with prejudice, discrimination, and marginalization are stressful and physically taxing. The ways in which concealment adds to that stress and influenced their psychological and physical health were examined in the present research.

Psychological Health Costs

The active monitoring associated with keeping secrets from others has been found to be physiologically exhausting, and extended inhibition is considered to be a cumulative stressor that increases the probability that an individual will develop stress-related psychological outcomes (see Pennebaker, 1997). Frijns and Fineknauer (2005) found that participants who concealed a

secret reported depressive mood, lower self-esteem, lower self-control, and poorer quality of relationship with parents. Similarly, Schrimshaw, Siegel, Downing, and Parsons (2013) examined the relationship between desire for concealment, disclosure, and mental health among non-gay identified bisexual males. They found that desire for concealment was high, and it was associated with poorer mental health outcomes. From threat assessments to active concealment, the process of hiding an important aspect of one's identity from others has important psychological consequences. Many gay and lesbian people are preoccupied with thoughts about their stigmatized identity. This preoccupation fuels—and is in turn fuelled by—a host of negative emotions including: shame, guilt, helplessness, anxiety, frustration, anger, and hopelessness. If gay and lesbian people experience these emotions on a regular basis, it may significantly impact their psychological health. Unlike visibly stigmatized individuals, individuals with concealable stigmas do not always have the ability to buffer themselves against these emotional states by aligning with similar others or by attributing their negative outcomes to discrimination. Psychological well-being was assessed using self-report measures of positive and negative affect and state anxiety.

Physical Health Costs

It is easy to argue that concealing one's sexual orientation influences psychological well-being. It is more difficult to make the case that concealment has measurable effects on physical health. However, from a stress and coping perspective, the physiological implications of minority stress are clear. In the last few decades, research exploring the physical health consequences of concealing one's sexual orientation has focused largely HIV-positive gay men concluding that when these men concealed their sexual orientation they reported more depressive symptoms and strained social relationships. In turn, this led to poorer health outcomes including

faster progression of their illness (Cole, Kemeny, Taylor, & Visscher, 1996; Ullrich, Lutgendorf, & Stapleton, 2003). Although this work is important, it is critical for research to move past such a narrow conceptualization of health in the context of gay and lesbian people. Recent research has begun to explore the relationship between sexual orientation-related stressors and physical health (see Denton, Rostosky, and Danner, 2014; Frost, Lehavot, & Meyer, 2011). Lick, Durso, and Johnson (2013) reviewed the empirical findings on LGB physical health to date and concluded that the exact causes of LGB individual's poorer physical health remain unclear. The authors encouraged future research to move beyond correlational studies of minority stress and health, and toward the use of experimental manipulations of minority stress in the laboratory to determine the direction of the relationship. Moreover, the authors urged researchers to conduct longitudinal studies to examine the cumulative impact of minority stress on physical health. The present research addressed both of these recommendations. In the imagined interaction laboratory study, minority stress was manipulated through the use of an imagined interaction paradigm and physical health was assessed using a self-report measure of physical symptoms, as well as through the collection of salivary cortisol samples. In the diary study, minority stress was assessed in the form of daily experiences with concealment, and physical health was assessed through the measurement of self-reported physical symptoms, physical burnout, and adaptive and maladaptive health-related behaviours, each assessed 10 times over a 30-day period.

Physiological markers of stress. Keeping a secret, even a mundane one, is enough to get the blood pumping given the right set of circumstances. The process of concealment often leads to intrusive thoughts about the secret and the potential consequences of it being revealed, as well consideration of effective strategies to prevent that from occurring. The aforementioned are considerable sources of stress, which are associated with certain types of psychophysiological

reactivity such as immune system suppression. Previous research has documented associations between psychological stress and salivary cortisol, blood pressure, and heart rate responses (e.g., Brondolo et al., 2008; Clark, 2000). These represent important physiological markers because of their associations with the development of hypertension and cardiovascular disease (Matthews et al., 2004). Psychological stress is one of the well-known triggers for the hypothalamic-pituitary-adrenocortical (HPA) axis. When this axis is stimulated, a cascade of hormones is released, including cortisol, from the adrenal cortex (Sapolsky, Romero, & Munck, 2000). The release of cortisol into the bloodstream has physiological, psychological, and cognitive effects (Biondi & Picardi, 1999). Research suggests that prolonged activation and excessive cortisol release over the long-term has detrimental health effects such as high blood pressure, early onset of diabetes, and obesity (Kudielka & Kirschbaum, 2003). Dickerson & Kemeny (2004) conducted a meta-analysis of 208 laboratory studies of acute psychological stressors and concluded that being in a social situation in which one perceives the possibility of being perceived negatively or rejected can trigger HPA activity. If the stress associated with concealing one's sexual orientation is depleting, then gay and lesbian people may evidence physiological markers of stress when they are asked to vividly imagine a concealment experience in the laboratory. Measures of salivary cortisol were taken after a Neutral imagined interaction and compared to salivary cortisol levels collected after the completion of subsequent imagined interaction, in order to examine the extent to which vivid imagination of specific social interaction resulted in elevated cortisol levels.

Adaptive and Maladaptive Health Behaviours. A significant part of achieving or maintaining a healthy lifestyle involves being proactive about one's health. This involves making adaptive choices and these choices—like most activities in daily life—require self-regulatory resources. The diary study examined the impact of concealment experiences on the adaptive

health behaviours of gay and lesbian people. Participants answered questions about their sleep habits, and the frequency with which they engaged in vigorous exercise.

Maladaptive health behaviours may be thought of as resulting from depleted self-regulatory resources or as counterproductive attempts to cope with stress. Recognizing that concealing one's sexual orientation is a unique and additive form of stress over and above that experienced by most people in their everyday life, concealing may have significant implications for maladaptive health behaviours. For example, if one reacts to stress by increasing their intake of alcohol or the number of cigarettes they smoke, this could contribute to a number of significant and chronic health problems. The diary study examined the extent to which the concealment of one's sexual orientation was associated with maladaptive health behaviours, such as smoking and alcohol consumption, as well as the consumption of fast food.

Individual Differences

Building on Quinn and Chaudoir's (2009) comprehensive work on the unique challenges and processes involved with living with a concealable stigmatized identity, the present research examined individual difference variables that may be particularly germane to the experiences of gay and lesbian people. Exploratory analyses examined whether these variables (measured at pretest) correlated with changes in the dependent variables between experimental conditions in the imagined interaction laboratory study, and between concealing and non-concealing periods in the 30-day diary study.

Perceived and Actual Experiences with Discrimination

The primary motivations for concealment stem from anticipated stigma, or the degree to which individuals expect that others will stigmatize them if they know about the concealed identity, and felt stigma, experiences with differential treatment based on one's stigmatized

identity. Unlike people who possess visible stigmatized identities—people who regularly have the opportunity to interact with non-stigmatized others and gauge their reaction—invisibly stigmatized people may not know exactly what other people think about their identity. They are aware, however, of the prevailing negative stereotypes surrounding their group and may have witnessed or been privy to the comments and or discriminatory behaviours directed toward members of their group (Wahl, 1999). In some cases, individuals with concealable stigmas may expect the worse from others, inaccurately perceiving negative interactions or outcomes as related to their stigmatized identity. This is important because research examining felt or perceived stigma has shown that the more people believe others devalue their group, the worse their reported psychological well-being (Link & Phelan, 2001). Following the procedure used by Quinn and Chaudoir (2009) in their exploration of living with a concealable stigmatized identity, anticipated stigma was assessed using the day-to-day Perceived Discrimination Scale (PDS; Kessler, Mickelson, and Williams, 1999), which asks people how likely they believe a variety of negative outcomes would be if their sexual minority status was known. The PDS was adapted from the Everyday Experiences with Discrimination Scale (Essed, 1991; William, Yu, Jackson, & Anderson, 1997), which asks respondents to indicate the frequency with which a variety of negative outcomes have happened to them. Given that many gay and lesbian people are "out" in some domains of their life and not in others, it was important to measure their actual experiences with discrimination. Therefore, participants also completed the aforementioned Everyday Experiences with Discrimination Scale.

Salience

It would be presumptuous to assume that all gay men and lesbians think about their stigmatized social identity on a regular basis. For some, it may cross their mind only in a limited

number of social contexts, while for others it may be chronically accessible and occupy their thoughts (Quinn, Kahn, & Crocker, 2004). The more that they think about their stigmatized sexual orientation, the more salient and intrusive stigma-related thoughts become in their everyday life. This is a process akin to rumination, whereby gay and lesbian people devote considerable time and mental energy to thinking about their sexual orientation. No suitable measures of stigma salience for concealable identities existed at the start of the present research, so I developed a 4-item measure. This measure asked participants to indicate the extent to which they thought about their sexual orientation and the extent to which these thoughts were intrusive in their daily lives.

Centrality

Gay and lesbian people differ with respect to how central their sexual orientation is to their self-concept. Research suggests that centrality plays a significant role in disclosure decisions among those concealing their sexual minority status (e.g., Griffith & Hebl, 2002; Ragins, 2008). However, the majority of research on centrality has been limited to visible stigmas and has drawn mixed conclusions. Several studies found that greater centrality was associated with lower levels of psychological distress among African Americans (e.g., Sellers, Caldwell, Schmeelk-Cone & Zimmerman, 2003; Sellers, Smith, Shelton, Rowley, & Chavous, 1998). However, other studies with women and Latino populations found a negative relationship between centrality and psychological well-being (e.g., Eccelston & Major, 2006; Major, Quinton, & Schmader, 2003). Whether results obtained with visibly stigmatized populations can be generalized to invisibly stigmatized populations remains an unanswered question. For visibly stigmatized individuals, centrality may offer them a source of social support and the chance to attribute negative events to discrimination (e.g., Crocker & Major, 1989). This is not the case for

gay and lesbian people who are concealing their sexual orientation as they are significantly less likely to find themselves around similar others. Centrality was assessed using a 5-item measure previously developed by Fortune and Inzlicht (2006) which asked participants to indicate the extent to which their concealed identity forms an important component of their self-concept.

Social Support

Social support is crucial to gay men and lesbians who are experiencing the burden associated with minority stress (Meyer, 2003). One of the major goals of stigma management is to minimize rejection and to maximize support. Thus, individuals tend to disclose their stigmatized identity to those people whom they expect to react positively (Major & Gramzow, 1999) and are significantly less likely to disclose to individuals they expect to devalue or derogate them (Link, Mirotznik, & Cullen, 1991). Research has found that low levels of social support among gay men and lesbians were associated with higher levels of depression and lower self-esteem (Vincke & Bolton, 1994). By concealing, gay and lesbian people have less access to social support from other gay and lesbian people, as well as from some supportive heterosexual people. However, by concealing, gay and lesbian people reap the benefits of more widespread support from heterosexual people who might otherwise reject them. An important question that speaks to the complexity of concealment decisions is whether or not support attained by concealing is of the same quality as unconditional support, or support obtained from similarly stigmatized others. Social support was examined using the Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988).

A substantial body of research has demonstrated the mental and physical health benefits of both perceived and actual social support (see review by Taylor, 2009b). The health-protective benefits of social support may operate through some of the same routes as other psychosocial

resources. Specifically, social support may reduce physiological and neuroendocrine responses to stress (Taylor, 2010). For example, research has shown that people tend to react more strongly to acute stress that is induced in a laboratory setting if they are experiencing chronic stress in their lives (Pike et al., 1997); conversely, people who regularly experience social support tend to react less strongly to these acute stressors in the laboratory (e.g., Eisenberger, Taylor, Gable, Hilmert, & Lieberman, 2007).

Summary

The extent to which gay and lesbian people are impacted by concealing their sexual orientation may vary considerably. Those individuals who anticipate being stigmatized in response to their sexual orientation being revealed may engage in more concealment and may be more negatively affected by it. Similarly, those gay and lesbian people who consider their sexual orientation to be a central part of their self-concept, and who devote considerable time to thinking about their sexual orientation, are more likely to exhibit depletion in multiple domains. Finally, perceived social support may serve to buffer some gay and lesbian people against the stress associated with concealment. However, concealing their sexual orientation leaves gay and lesbian people in a no-win situation. The more they conceal, the less likely they are to meet similarly stigmatized others, and the fewer opportunities they have to find social support. However, disclosing their sexual orientations means risking the acceptance—albeit conditional in nature—that they may already have from non-stigmatized others. Each of these factors may be correlated with the likelihood of gay and lesbian people concealing their sexual orientation and with experiencing cognitive, emotional, and physical depletion.

Weaknesses of Self-Reported Health Behaviours

It is important to briefly discuss the validity of self-reported health behaviour. The accuracy and truthfulness of these self-reports can be compromised because some health behaviours are difficult to recall, and others are sensitive so respondents are not eager to report them. Error can be introduced into the data as a result of issues of comprehension, retrieval, and decision-making and response-generation (Brener, Billy, & Grady, 2003). Depending on what respondents are being asked to remember and how far back they are asked to recollect (e.g., 2 days or the past month), their responses may be more or less accurate. In cases where their recall is poor, individuals may over generalize from the more immediate time frame to the weeks prior. In order to avoid this issue, participants were asked to recall health behaviours or symptoms only from the past 3 days.

Another issue is that of social desirability bias. Items that are most likely to be influenced by a social-desirability bias have response options that “involve attributes considered desirable to have, activities considered desirable to engage in, or objects considered desirable to possess” (Brener et al., 2003, p. 437). For example, unprotected sex and high levels of alcohol intake may be viewed as socially undesirable, and thus they are under-reported. Similarly, healthy eating and regular exercise are socially desirable and may be over-reported. Social desirability issues are always a concern with self-report data, but all efforts were made to ensure participants that the confidentiality of their responses was of paramount concern.

Finally, and perhaps most germane to the proposed research, are respondents’ concerns over confidentiality, anonymity, and privacy. Gay and lesbian people who know that they have been selected for participation based on their sexual orientation may be wary of questions pertaining to certain health behaviours due to existing stereotypes linking homosexuality and

diseases like HIV/AIDS. It is possible that their concerns could extend beyond just sexual behaviour to other domains if they perceive that their sexual orientation will be unfairly linked to unhealthy or illegal behaviours. In order to allay their fears, considerable time was devoted to explaining the purpose of the research and the methods used to ensure that their responses were anonymous. However, recognizing that the information obtained through self-reports is difficult to verify, perhaps the best approach is to be aware of the potential sources of inaccuracy and the magnitude of the inaccuracy, and to take this information into consideration when interpreting and generalizing the results.

Overview of Study 1: Imagined Interaction Study

Gay and lesbian people who conceal their sexual orientation in one or more domains of their lives may approach social interactions by assessing the threat of discovery, rejection, and meaningful consequences of that potential rejection. Different social contexts and audiences arouse different levels of threat which make it imperative that gay and lesbian people are prepared to adapt their strategies of concealment to changing interaction dynamics. They may prepare by mentally rehearsing the interaction in great detail. Mental rehearsal may involve imagining details about the social context, the interaction partner, and potential topics of discussion. Mental rehearsal is motivated by anticipated stigma and rejection concerns and taps into their limited self-regulatory resources resulting in a state of ego-depletion.

Crisp and Turner (2009) argued that imagined interaction can be an effective first step in prejudice reduction, particularly when there is little opportunity for contact between two groups, or when the groups are highly socially segregated. They note that mental imagery has been found to elicit emotional and motivational responses that mimic those of real experiences (Dadds,

Bovbjerg, Redd, & Cutmore, 1997). Thus, simply imagining a particular social situation can have the same effect as the experience itself.

The present research explored how imagining and mentally rehearsing an interaction with outgroup members under neutral, accepting, or threatening conditions will influence cognitive, emotion, psychological, and physical depletion. All participants completed a control or baseline interaction in which they were asked to imagine a neutral situation with little potential for stigma-relevant topics to arise, specifically, a visit to a local electronics store. Participants were then randomly assigned to complete an Out-and-Accepting, Out-and-Rejecting, or Concealment imagined interaction.¹ Participants were asked to be as detailed and vivid in their descriptions and to take as long as they wished (see Appendix A for the complete experimenter script). In the Out-and-Accepting scenario, participants were asked to imagine a situation in which they were in the presence of someone to whom they had already disclosed their sexual orientation, and by whom they had been accepted. For example, one participant talked about an Out-and-Accepting interaction involving coming home from work and catching up on the day's events with her roommate, who was aware and supportive of her sexual orientation. In the Out-and-Rejecting condition, participants were asked to imagine interacting with someone in their life to whom they have disclosed their sexual orientation, and from whom they have received a negative, rejecting response. For example, one participant talked about a Thanksgiving dinner interaction with an aunt who was devoutly religious and had previously expressed her feeling that homosexuality was morally wrong. Finally, in the Concealment condition, participants were asked to imagine a scenario in which they were interacting with someone to whom they have not disclosed their sexual orientation, and from whom they did not anticipate a positive or accepting response. For example, one participant talked about a Concealment interaction in which he was visiting his

grandmother, who was unaware of his sexual orientation. When he discussed his impending travel plans, his grandmother repeatedly asked him about whether he and his female friend would be sharing the same bed and referred to her as his girlfriend (see Appendix B for sample excerpts of each imagined interaction).

Measures of cognitive performance (working memory), emotional regulation (facial recognition accuracy and response time), psychological well-being (positive and negative affect and anxiety), and physical health (physical symptoms and salivary cortisol levels) were taken after each imagined interaction. Depletion was calculated by comparing participants' performance on each measure (taken after the Neutral imagined interaction) from their performance on each measure after the subsequent imagined interaction. Thus, for each of the dependent measures there are three depletion scores: Neutral vs. Out-and-Accepting, Neutral vs. Out-and-Rejecting, and Neutral vs. Concealing. Depletion was compared across conditions.

Hypotheses

Hypothesis 1: Participants will show more depletion after the Out-and-Rejecting imagined interaction than after the Out-and-Accepting imagined interaction. Being rejected takes a greater cognitive, emotional, psychological, and physical toll than being accepted.

Hypothesis 2: Participants will show more depletion after the Concealing imagined interaction than after the Out-and-Rejecting imagined interaction. Having to engage in concealment takes a greater cognitive, emotional, psychological, and physical toll than being rejected.

Method

Participants

Participants were recruited through online postings to LGBTQ websites and discussion forums, by mass emails sent out by OutWords Magazine, the University of Manitoba's Rainbow

Pride Mosaic, and by the Rainbow Resource Centre. From those initial postings and messages, I relied upon snowball sampling to recruit interested participants. Each participant spread the word to gay and lesbian friends and acquaintances, who subsequently contacted me via email to obtain more information about the study.

Seventy-five participants (39 females and 36 males) took part in the imagined interaction laboratory study. In order to confirm their eligibility to take part in the study, participants were pre-screened via email. Participants answered a brief series of questions regarding health conditions or behaviours that are known to influence the salivary cortisol measure, as well as a question about whether they had disclosed their sexual orientation in all domains of their life, or whether there were important people to whom they had yet to disclose. These health conditions and behaviours included high blood pressure and Cushing's disease, the use of oral contraceptives, and tobacco use. Participants who reported that they suffered from any of these conditions or who regularly smoked or used these medications, were excluded from participating in this study. Participants ranged in age from 18 to 56 years ($M = 30.4$). The majority of the participants self-identified as Caucasian/White (73%), with a small number of participants self-identifying as Aboriginal/First Nations (6.7%), East Asian (6.7%), Pacific Islander (6.7%) and Métis (4%). With respect to their sexual orientation, participants self-identified as gay (46.7%), lesbian (24%), bisexual (10.7%) and queer (10.7%).

Experimental Procedure

Interested participants contacted me and were sent a SurveyMonkey web link via email. The email was comprised of an informed consent page describing the purpose of the study as looking at how people mentally rehearse social interactions (see Appendix C). After providing their consent to participate they completed a pretest questionnaire comprised of demographic

questions and measures of "outness" or disclosure of sexual orientation, measures of identity salience and centrality, perceived and actual experiences with discrimination, social support, and paranoid social cognition. Upon completing the pretest questionnaire, I contacted the participants via email to set up a time for them to come into the laboratory on the University of Manitoba campus for a 1-hour testing session. I asked participants not to engage in strenuous physical activity, drink alcohol, or smoke on the day of their experimental session and not to consume dairy products or caffeine 1 hour prior to their session, in order to minimize their influence on salivary cortisol levels. I verified this information with participants upon arrival at the laboratory and before commencing participation in the study. All sessions were conducted between 11am and 5pm as cortisol levels are known to peak in the early morning and decrease late in the day.

Upon arriving at the Duff Roblin Building, I greeted participants and brought them to the laboratory where they were given a brief explanation of the procedure. I informed the participants that they would be asked to complete a series of tasks in the laboratory, including two tasks that would be done on the computers next to them, an imagined interaction task, which included a brief audio recording, as well as providing samples of their saliva. I reassured participants their saliva was not being tested for any health conditions, but rather only for one particular marker of research interest. Furthermore, I reiterated the fact that all of their responses would be kept confidential, and would be stored in a secure laboratory at the University of Manitoba. I addressed any questions they had at that time.

Each round of the procedure began with the imagined interaction task, which was immediately followed by the collection of the salivary cortisol assay. The order of the subsequent tasks was randomly determined. For example, some participants completed the imagined interaction task, provided their saliva sample, and then completed the digit-span

measure, facial recognition task, and mood measures. Other participants completed the imagined interaction task, provided their saliva sample, and then completed the mood measures, the facial recognition task, and digit-span measures.

The procedure was conducted as follows: I introduced the first imagined interaction condition, which was the neutral (baseline) condition (See Appendix A). I asked the participants if they had any questions about the task and if they did not, they were reminded to be as detailed as possible in their description. I pressed the red record button on the voice recorder and I asked participants to press the stop button and to open the door to the laboratory when they were finished with their recording. I then exited the laboratory and waited quietly down the hall.

Once the participant opened the door, I immediately entered the laboratory and initiated the salivary assay collection (see Appendix A). I gave participants privacy to complete this task and asked them to open the door when they had sealed the plastic vial. Saliva collection typically took less than thirty-seconds to complete, at which point I re-entered the room, collected the sample, and immediately placed it in the freezer in the laboratory.

I then directed toward the computer in the lab and provided them with instructions on how to complete the next task, which was either the emotional expression recognition task, digit-span working memory task, or the psychological and physical symptom measures (see Appendix A). When participants had completed this task, I entered the laboratory and directed them to the next task and this process was repeated until all the experimental tasks were completed. The entire experiment took approximately one-hour to complete and at the end of the session I thanked the participants for their time and provided them with a verbal debriefing and a written debriefing form (see Appendix D).

Materials

Pre-test Measures

"Outness." Participants were given a list of 13 potential audiences or people with whom they interact in their everyday lives (e.g., mother, father, siblings, grandparents, close friends, coworkers), and they were then asked to indicate whether or not each of these people were aware of their sexual orientation (see Appendix E). This measure was developed for the purpose of the present research.

Centrality. Participants completed a 5-item measure of centrality of sexual orientation including items such as, "This identity is an important part of how I define who I am," and "This identity has little to do with how I feel about myself as a person." Each item was rated on a scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*) (see Appendix F). This measure was previously developed by Fortune and Inzlicht (2006) as part of a proposed research project.

Salience. Participants completed a four-item measure asking them to indicate the extent to which they thought about their concealed identity across multiple contexts (see Appendix G). For example, "On a day-to-day basis I don't give much thought to my sexual orientation." Each item was rated on a scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*). This measure was previously developed by Fortune and Inzlicht (2006) as part of a proposed research project.

Perceived Discrimination. To measure the extent to which gay and lesbian people believe that they would be socially stigmatized if they revealed their sexual orientation to others, participants completed the 9-item Perceived Discrimination Scale (Kessler, Mickelson, and Williams, 1999, p. 214), an adaptation of the Everyday Experiences with Discrimination Scale (Essed, 1991; Williams, Yu, Jackson, & Anderson, 1997) (see Appendix H). Following the protocol developed by Quinn and Chaudoir (2009), the instructions read, "If others knew about

your sexual orientation, how likely do you think it is that the following would occur?" Items included, "Friends would stop hanging out with you," "People threatening you or harassing you," "People not wanting to get to know you better," and "Getting poorer service than others at restaurants and stores." Each item was rated on a scale from 1 (*Not at all likely*) to 7 (*Very likely*). This scale has strong reliability, with coefficient alphas ranging from .93 (Kessler, Mickelson, & Williams, 1999) to .95 (Quinn and Chaudoir, 2009).

Experienced Discrimination. In addition to the measure of perceived discrimination, participants completed the original Everyday Experiences with Discrimination Scale (Essed, 1991; Williams, William, Yu, & Jackson, & Anderson, 1997) (see Appendix I), indicating the extent to which they have actually experienced discriminatory treatment on the basis of their sexual orientation. For each item, participants were asked to indicate the frequency with which they had experienced each of the scenarios outlined in the Perceived Discrimination Scale. Thus, items included, "Friends stopped hanging out with you," "People threatened you or harassed you," "Received poorer service than others at restaurants and stores." Each item was rated on a scale from 1 (*Not at all likely*) to 7 (*Very likely*). This scale has strong reliability with coefficient alphas of .74 or higher for Black, Latino, and White samples (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005). Taylor, Tamarack, & Shiffman (2004) reported internal consistency reliability coefficients of .80 for this scale.

Social Support. Social support was examined using the 12-item Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988). This includes items such as, "I can talk about my problems with my family," and "I have friends with whom I can share my joys and sorrows." Each item is rated on a scale from 1 (*Very strongly disagree*) to 7 (*Very strongly agree*). Each of three subscales (family, friends, significant others) is assessed with four

items (see Appendix J). Zimet et al. (1990) found that the scale had strong reliability with a coefficient alpha of .93 for the overall scale, and the family, friends, and significant other subscales demonstrating of coefficient alphas of .91, .89, and .91, respectively. Bruwer, Emsley, Kidd, Lochner, & Sedat (2008) reported an internal reliability coefficient of .86 for the full scale and internal reliability coefficients ranging from .86 to .90 for the subscales.

Self-esteem. Participants completed the Rosenberg Self-Esteem scale (RSES; Rosenberg, 1965). The RSES is a 10-item Likert scale with items such as, “I feel I’m a person of worth, at least on equal plane with others” answered on a nine-point scale ranging from SA (*Strongly agree*) to SD (*Strongly disagree*) (see Appendix K). The scale generally has high reliability: test-retest correlations are typically in the range of .82 to .88, and α in the range of .77 to .88 (see Blascovich and Tomaka, 1993 and Rosenberg, 1986).

Paranoid social cognition. Participants completed a 6-item measure of paranoid social cognition and intrusive thoughts (see Appendix L). This measure included items such as, “I sometimes think that I give off signs or cues as to my sexual orientation,” and “When I am out at school/work I often feel like people are evaluating me negatively because of my sexual orientation.” Items were rated on a Likert scale from 1 (*Strongly disagree*) to 5 (*Strongly agree*). This measure was previously developed by Fortune and Inzlicht (2006) as part of a proposed research project.

Experimental Measures

Mood. Participants completed the 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). The PANAS is comprised of two mood scales, one measuring positive affect (e.g., excited and inspired) and the other measuring negative affect (e.g., guilty, ashamed). Each item is rated on a 5-point Likert scale ranging from 1 (*Very slightly*

or not at all) to 5 (*Extremely*) to indicate the extent to which the respondent has felt this way in the indicated time frame (see Appendix M). Watson et al. (1988) reported Cronbach's alpha ranging from .86 to .90 for the Positive Affect scale and .84 to .87 for the Negative Affect scale. Cronbach's alpha ranged from .85 to .93 for the Positive Affect scale and from .80 to .91 for the Negative Affect scale.

Anxiety. Participants completed the state items from the 40-item State-Trait Anxiety Inventory (STAI; Spielberger, 1970). The STAI consists of two scales containing 20 items each (see Appendix N). One scale addresses state anxiety (e.g., "I feel nervous"), while the other scale addresses trait anxiety. The STAI uses a four-point scale ranging from 1 (*Not at all*) to 4 (*Very much so*). According to studies by Spielberger (1970), test-retest correlations were calculated to be .54 for the state section and .86 for the trait section. Participants only completed the state scale, which asked them to report how they felt in that moment, and reflected situational factors that may influence anxiety levels. Cronbach's alpha ranged from .82 to .90 for the STAI following each of the three imagined interactions.

Cognitive Depletion. Participants completed a working memory task called a reading-span task (see Schmader & Johns, 2003). This task was an adaptation of a dual-processing test called the operation-span task developed by LaPointe & Engle (1990). They were presented with a sentence and asked to count the number of vowels contained in the sentence. All sentences were between 7 and 12 words long and contained approximately 10 vowels. After they were presented with each sentence, they were given a word from that sentence to recall for later. At the end of a series of sentence-word combination trials, which constitute a set, participants were asked to recall as many of the words from the preceding series as possible. Each set included 4, 5, or 6 word-sentence trials, and the sets were presented in random order.

They completed four blocks of each set for a total of 60 word–sentence trials (see Appendix O). Working memory span was assessed using the *absolute span score*—summing the total number of words recalled from only those sets where all the words were recalled correctly (La Pointe & Engle, 1990). Estimates of reliability for the span scores, such as coefficient alphas and split-half correlations, are typically in the range of .70-.90 (Conway et al., 2005).

Emotional Depletion. Participant's responses to the emotional expression recognition task were collected using E-Prime (Schneider, Eschman, & Zuccolotto, 2002). The facial expressions were drawn from the Montreal Set of Facial Displays of Emotion (MSFDE; Beaupré, Cheung, & Hess, 2000). The MSFDE is comprised of 224 stimuli (192 stimuli across 6 basic emotions and 32 neutral faces). The set contains expressions of happiness, sadness, anger, fear, disgust, and embarrassment, as well as a neutral express from each actor. The MSFDE includes emotional facial expressions by men and women of Caucasian, Asian, African and Hispanic descent. Recognizing that facial physiognomy can make certain expressions more or less difficult to decode, these expressions were constructed to be morphologically equivalent. All actors showed expressions that were assessed to be identical using the Facial Action Coding System (FACS; Ekman & Friesen, 1978). After completing a trial/practice block of 29 faces, each subsequent trial consisted of 65 faces randomly selected from each category (male, female, Caucasian, Asian, African, and Hispanic descent). Each facial expression was presented for 2000 milliseconds. Before each trial began, instructions appeared on the screen followed by a fixation cross, then followed by the emotional expression, and the list emotions. Participants were asked to accurately identify what emotional expression was being displayed. No time limit was placed on this judgment, but response times were measured to assess the difficulty of the task. Accuracy

was assessed by the number of facial expressions out of 65 that were correctly identified, and longer reaction times were taken as evidence of effortful processing/depletion.

Physical Symptoms. Participants completed a subset of 7 items from the 33-item Cohen-Hoberman Inventory of Physical Symptoms (CHIPS; Cohen & Hoberman, 1983). This subset consisted of items that were deemed to be most relevant to acute stress responses (e.g., feeling faint and feeling flushed). Participants were asked how bothersome each of the symptoms was for them in that moment. Responses were assessed on a Likert scale ranging from 0 (*Not at all bothered by the problem*) to 4 (*Very much bothered by the problem*) (see Appendix Q).

Salivary Cortisol. Salivary cortisol was assessed after participants completed the neutral imagined interaction, and after they completed the subsequent imagined interaction (either Out-and-Accepting, Out-and-Rejecting or Concealing). Samples were collected in sterile test tubes. Participants were asked to dispense enough saliva into the test tube to at least cover the bottom of the tube. The samples were immediately sealed and placed into the freezer until they were brought to the laboratory for testing. Dr. Carla Taylor and her colleagues from the Faculty of Human Nutritional Sciences performed the analyses on the saliva samples. Cortisol levels were assessed using a high sensitivity salivary cortisol immunoassay kit. This test provides precise results with a lower limit of sensitivity at 0.003 ug/dL. Salivary measures of cortisol have been shown to be valid and reliable reflections of serum cortisol (Obminski and Stupnicki, 1997). Salivary cortisol is considered a better measure of the stress response than serum cortisol as it more accurately measures the amount of unbound cortisol (see Vining et al., 1983).

Imagined Interaction Study Results

Analysis Plan

Analysis of the imagined interaction study results began with an examination of the pretest questionnaire, including calculating basic descriptive statistics, as well as establishing that there were no significant differences on the pretest questionnaires across the imagined interaction conditions. Pretest questionnaire items were then correlated with change scores calculated by subtracting the scores on each dependent variable following the Neutral imagined interaction from scores on each dependent variable following the subsequent imagined interaction (Out-and-Accepting, Out-and-Rejecting, or Concealing). A one-way ANOVA was then performed on each of the dependent variables following completion of the Neutral imagined interaction. This was done in order to ensure that Neutral imagined interaction was—in fact—neutral and that all participants were coming away from the Neutral imagined interaction relatively equal on each dependent variable. After ensuring baseline equivalency, preliminary analyses were conducted using a series of 3 (between subjects variable = imagined interaction condition: Out-and-Accepting, Out-and-Rejecting, Concealing) by 2 (within-subjects variable = change from Neutral to subsequent imagined interaction) repeated measures Analysis of Variance (ANOVA). These analyses were conducted in order to obtain the correct mean square error term needed for the subsequent 2 x 2 ANOVA's that were conducted in order to test the specific hypotheses put forth by the present research. Finally, hypothesis 1 and hypothesis 2 were tested using a series of 2 (between-subjects variable = imagined interaction condition: Out-and-Accepting vs. Out-and-Rejecting) by 2 (within-subjects variable = Neutral to subsequent imagined interaction) repeated measures ANOVA's.

Pretest Questionnaire

The pretest questionnaire measures of centrality, salience, perceived and actual discrimination, social support, and paranoid social cognition, were all highly correlated (see Table 1). The relevance of these pretest measures was explored by first testing whether there were significant differences on these pretest measures between the imagined interaction conditions that immediately followed the Neutral imagined interaction condition. A one-way ANOVA performed on each of the pretest measures by imagined interaction condition, revealed no significant between-subjects effects. Thus, when subjects were randomly assigned to imagined interaction condition, they did not significantly differ on any of the pretest measures. The means, standard deviations, ranges, and reliability coefficients for the pretest measures are presented in Table 2.

Table 1

Imagined Interaction Study Pretest Correlation Matrix

Pretest Measure	1	2	3	4	5	6
1. Centrality	-					
2. Saliency	.448**	-				
3. Perceived Discrimination	.159	.457**	-			
4. Actual Discrimination	.230*	.363**	.602**	-		
5. Social Support	-.073	-.236*	-.297**	-.363**	-	
6. Paranoid Social Cognition	.303**	.618**	.438**	.434**	-.244*	-

Note. * = Correlation is significant at the 0.05 level (2-tailed), ** = Correlation is significant at the 0.01 level (2-tailed).

Table 2

Imagined Interaction Pretest Means, Standard Deviations, Ranges, and Reliability Coefficients

	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>Alpha</i>
Centrality	16.79	4.94	19.00	.84
Saliency	12.59	4.19	19.00	.77
Perceived Discrimination	30.00	12.23	52.00	.93
Actual Discrimination	19.84	6.63	27.00	.87
Social Support	63.44	14.67	72.00	.93
Self-Esteem	65.28	17.12	71.00	.89
Paranoid Social Cognition	15.89	3.99	21.00	.60

"Outness Index"

Participants' level or degree of "outness" was examined in two ways. The number of yes responses they provide to each of 13 items asking about people in their lives who could be aware of their sexual orientation was summed to create an overall "outness" total. The number of yes responses was divided by the number of categories relevant to them, as not all participants have a brother, sister, landlord, and so on. This division produced an overall percentage "outness" figure, which is a crude index of participants overall disclosure of their sexual orientation. Participants' "outness" ranged from 9% to 92% with a mean percentage "outness" of 72%. This indicates that the sample represents a relatively "out" group of gay and lesbian people. However, all participants indicated that they were not "out" to at least one person in their lives.

Social Support Subscales

The Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) is comprised of 12 items, each rated on a scale from 1 (*Very strongly disagree*) to 7 (*Very strongly agree*). The overall level of perceived social support was high for all participants ($M = 5.50$). However, the MSPSS is comprised of three subscales (family, friends, significant others), each of which is assessed with four items (see Appendix J). Analyses of these subscales revealed significant differences in levels of perceived support between family, friends and significant others. Participants reported perceiving significantly more support from friends ($M = 5.79$) than they did from their family ($M = 4.31$), $t(73) = 7.12$, $p < .001$, $d = .84$. Similarly, participants reported perceiving significantly more social support from their significant others ($M = 5.74$) than from their family ($M = 4.31$), $t(73) = 7.27$, $p < .001$, $d = .86$.

Pretest Measures and Change Scores

To explore whether any of the pretest measures collected in the days prior to participants taking part in the study were correlated with the effects of the imagined interactions on the dependent variables, change scores were calculated by subtracting the score on each dependent measure following the Neutral imagined interaction from the score on each dependent measure following the Out-and-Accepting, Out-and-Rejecting, or Concealing imagined interaction. Thus, positive change scores represent higher scores on the dependent variables following the Out-and-Accepting, Out-and-rejecting, or Concealing imagined interactions, as compared to the following the Neutral imagined interaction. For example, a positive change score for state anxiety would indicate that the level of state anxiety was higher following the second imagined interaction than it was following the Neutral imagined interaction. Analyses of the correlations between these change scores and the pretest measures revealed a few significant results, but no discernible pattern of correlations emerged.

In terms of the change scores from the Neutral imagined interaction to the Out-and-Accepting imagined interaction, salience of sexual orientation was negatively correlated with change in state anxiety, $r(35) = -.397, p = .015$, and negatively correlated with change in performance on the digit-span memory task, $r(35) = -.334, p = .043$. Thus, higher salience scores at pretest were associated with decreased state anxiety and poorer performance on the memory task after the Out-and-Accepting imagined interaction. Perceived discrimination at pretest was negatively correlated with change in negative affect, $r(35) = -.325, p = .050$. Thus, participants who perceived more discrimination based on sexual orientation in their lives reported less negative affect after the Out-and-Accepting imagined interaction. Paranoid social cognition was negatively correlated with change in performance on the digit-span memory task, r

(35) = - .383, $p = .019$. Thus, participants who reported higher levels of paranoid social cognition related to their sexual orientation evidenced decreased performance on the digit-span task following the Out-and-Accepting imagined interaction. It appears that imagining an interaction with someone in their life to whom they are out, and by whom they are accepted, offers those participants for whom sexual orientation is more salient, and who perceived more discrimination in their lives, some protection against negative affect.

In terms of the change scores from the neutral imagined interaction to the concealing imagined interaction, centrality of sexual orientation was negatively correlated with change in positive affect, $r(17) = -.500, p = .035$. Thus, participants who reported that their sexual orientation was more central to their identity at pretest reported a decrease in positive affect after the concealing imagined interaction. Likewise, salience of sexual orientation was negatively correlated with change in positive affect, $r(17) = -.445, p = .064$, indicating that participants whose sexual orientation was more salient at pretest, reported a decrease in positive affect after the concealing imagine interaction. Paranoid social cognition at pretest was negatively correlated with change in positive affect, $r(17) = -.451, p = .048$, indicating that participants who experienced more paranoid social cognition related to their sexual orientation, reported a decrease in positive affect following the concealing imagined interaction condition. This pattern of correlations suggests that for participants whose sexual orientation is central, salient, and readily accessible in their daily cognitions, imagining an interaction with someone to whom they have not disclosed heightens the negative effects of such an interaction.

There were no significant correlations between the pretest measures and change in the dependent variables from the Neutral to the Out-and-Rejecting imagined interaction.

Establishing Baseline

Before examining the difference between the neutral imagined interaction and the subsequent condition (Out-and-Accepting, Out-and-Rejecting, and Concealing), it was critical to establish that all participants were coming away from the Neutral imagined interaction with approximately equal levels of state anxiety, positive and negative affect, physical symptoms, memory task and emotional recognition performance. Put differently, it was important to ensure that the Neutral imagined interaction was, in fact, neutral in valence, and did not shift participants' psychological or physical state significantly. A one-way ANOVA performed on each of the dependent variables following completion of the neutral task revealed no significant differences: state anxiety, $F(2, 72) = 1.46, ns.$, positive affect, $F(2, 72) = .14, ns.$, negative affect, $F(2, 72) = .08, ns.$, physical symptoms, $F(2, 72) = .03, ns.$, memory, $F(2, 72) = .13, ns.$, emotion recognition accuracy, $F(2, 72) = .53, ns.$, and emotion recognition reaction time, $F(2, 72) = 1.33, ns.$

Preliminary Analysis (Neutral to Out-and-Accepting, Out-and-Rejecting, and Concealing)

Preliminary analyses were conducted using a series of 3 (between subjects variable = imagined interaction condition: Out-and-Accepting, Out-and-Rejecting, Concealing) by 2 (within-subjects variable = change from Neutral to subsequent imagined interaction) repeated measures Analysis of Variance (ANOVA). These analyses were conducted in order to obtain the correct mean square error term needed for the 2 x 2 ANOVA's conducted to test the specific hypotheses put forth by the present research. A within-subjects effect means that collapsed across imagined interaction conditions, there was a significant difference between measures taken after the first imagined interaction task and those taken after the second imagined interaction task. A between-subjects effect means that collapsed across the two post-task

measures there were significant differences between participants in each of the subsequent imagined interaction conditions. The result that is of relevance to the hypotheses advanced in this thesis is represented by a significant interaction between the within-subjects and between-subjects factor. An interaction effect means that the change in the dependent variable from the Neutral imagined interaction to the subsequent imagined interaction differed significantly among the subsequent imagined interactions. For instance, imagining an interaction in which one conceals one's sexual orientation produces a different change in affect (compared to baseline) than imagining an interaction with an audience that is rejecting. The means for each dependent variable following the Neutral imagined interaction and following the subsequent imagined interaction are presented in Table 3.

Table 3.

Means of Dependent Measures after Neutral and Subsequent Imagined Interaction

	State Anxiety	Positive Affect	Negative Affect	Physical Symptoms	Working Memory	Emotional Accuracy	Emotional Accuracy (RT)	Cortisol
<u>After Neutral IMI</u>								
NOA	37.41	29.78	14.41	8.70	1.65	51.77	1884.57	.22
NOR	41.90	29.55	14.61	9.15	1.85	51.90	1928.87	.24
NCO	39.20	28.72	14.00	8.78	1.89	49.89	1657.87	.21
<u>After Subsequent IMI</u>								
NOA	35.38	29.84	12.70	7.35	1.22	53.35	1679.80	.23
NOR	44.15	29.75	14.25	9.25	1.85	54.65	1644.20	.21
NCO	42.00	24.94	16.33	8.39	1.78	53.44	1805.93	.22

Note. IMI = Imagined Interaction, NOA = Neutral to Out-and-Accepting Imagined Interaction, NOR = Neutral to Out-and-Rejecting Imagined Interaction, NCO = Neutral to Concealing Imagined Interaction

State Anxiety. There was no significant within-subjects effect, $F(1, 72) = .520$, *ns.*, but there was a significant between-subjects effect, $F(2, 72) = 3.49$, $p = .035$, $\eta_p^2 = .089$, with participants in the Out-and-Rejecting and Concealing conditions reporting higher levels of state anxiety than participants in the Out-and-Accepting conditions. The interaction effect was not significant, $F(2, 72) = 2.11$, *ns.*

Positive Affect. There was a significant within-subjects effect for positive affect, $F(1, 72) = 4.65$, $p = .039$, $\eta_p^2 = .048$, but no significant between-subjects effect, $F(2, 72) = 1.20$, *ns.* However, there was a significant interaction effect, $F(2, 72) = 4.92$, $p = .010$, $\eta_p^2 = .120$, indicating that the change in positive affect from neutral to subsequent imagined interaction was significantly different between the subsequent imagined interaction conditions.

Negative Affect. There was no significant within-subjects effect for negative affect, $F(1, 72) = .043$, *ns.*, nor between-subject effect, $F(2, 72) = .73$, *ns.* However, the interaction was significant, $F(2, 72) = 7.13$, $p < .001$, $\eta_p^2 = .165$, indicating that the change in negative affect between the neutral and subsequent imagined interaction differed significantly between the imagined interaction conditions.

Physical Symptoms. There was no significant within-subjects effect, $F(1, 72) = .621$, *ns.*, between-subjects effect, $F(2, 72) = .198$, *ns.*, nor interaction, $F(2, 72) = .461$, *ns.*

Cognitive Depletion. There were no significant within-subjects effect, $F(1, 72) = .850$, *ns.*, between-subjects effect, $F(2, 72) = .520$, *ns.*, nor interaction, $F(2, 72) = .538$, *ns.*

Emotional Depletion (Accuracy). There was a significant within-subjects effect for the accuracy of emotion recognition, $F(1, 72) = 25.27$, $p < .001$, $\eta_p^2 = .260$, such that all participants were more accurate on the emotion recognition task in the second imagined interaction condition. However, there was no significant between-subjects effect, $F(2, 72) = .276$, *ns.*, nor a significant interaction, $F(2, 72) = 1.35$, *ns.*

Emotional Depletion (Response Time). There was a significant within-subjects effect for emotion recognition response time, $F(1, 72) = 4.24$, $p = .043$, $\eta_p^2 = .056$, such that participants in all conditions showed a decrease in response time from the first to second

interaction. There was no significant between-subjects effect, $F(2, 72) = .333, ns$. The interaction was significant, $F(2, 72) = 15.69, p < .001, \eta_p^2 = .303$, indicating that the change in response-time on the emotion recognition task from neutral to the subsequent imagined interaction, differed significantly between the imagined interaction conditions.

Salivary Cortisol. All high and low controls fell within the expected ranges provided by the salivary assay supplier, with high control ranges from .747-1.25ug/dL and low control ranges from 0.074-0.124ug/dL. However, there were no significant main effects for levels of salivary cortisol, $F(1, 72) = .841, ns$, nor for condition, $F(2, 72) = .011, ns$, nor for the interaction, $F(2, 72) = 1.86, ns$.

Hypothesis 1: Out-and-Accepting vs. Out-and-Rejecting

I hypothesized that imagining an interaction with a person to whom one has disclosed their sexual orientation and from whom one has received a negative, rejecting response would produce different cognitive, emotional, psychological and physical effects (compared to baseline) than one would experience after an interaction with an accepting audience.

Specifically, I expected that interacting with someone who is not accepting of your sexual orientation would produce more state anxiety, more negative affect, less positive affect, more emotional and cognitive depletion, and increased signs of physical harm compared to interacting with someone by whom you are accepted.

To test this hypothesis, I conducted a series of 2 (between-subjects variable = imagined interaction condition: Out-and-Accepting vs. Out-and-Rejecting) by 2 (within-subjects variable = Neutral to subsequent imagined interaction) repeated measures ANOVA's. A within-subjects effect means that regardless of whether the second imagined interaction was Out-and-Accepting or Out-and-Rejecting, participants reported a significant change in a dependent variable, as

compared to the Neutral imagined interaction. A between-subjects effect means that collapsed across both imagined interactions there was a difference between the two conditions. The hypothesis is tested by the interaction between between-subjects and within-subjects factors. An interaction effect indicates that the change in the dependent variable from the Neutral imagined interaction to the Out-and-Accepting imagined interaction differed significantly from the change in the dependent variable from Neutral to the Out-and-Rejecting imagined interaction.

State Anxiety. There was no significant within-subjects effect, $F(1, 72) = .008, ns$. There was a significant between-subjects effect, $F(1, 72) = 6.25, p = .003, \eta_p^2 = .028$, with participants reporting significantly higher state anxiety following the Out-and-Rejecting imagined interaction than following the Out-and-Accepting imagined interaction. There was a significant interaction effect, $F(1, 72) = 3.01, p = .005, \eta_p^2 = .039$, indicating that there was a significant difference in the change in state anxiety from Neutral to Out-and-Accepting and the change in state anxiety from Neutral to Out-and-Rejecting. A paired-samples t-test comparing state anxiety following the Neutral imagined interaction to state anxiety following the Out-and-Accepting imagined interaction was significant, $t(36) = 1.75, p = .044$. A paired-samples t-test comparing state anxiety following the Neutral imagined interaction to state anxiety following the Out-and-Rejecting imagined interaction was not significant, $t(19) = .376, p = .188$. Thus, while imagining an interaction with an accepting audience produced a significant decrease in state anxiety, imagining an interaction with someone by whom one has been rejected produced no corresponding change in state anxiety.

Positive Affect. There was no significant within-subjects effect, $F(1, 72) = .040, ns$, no significant between-subjects effect, $F(1, 72) = .007, ns$, and no significant interaction, $F(1, 55) = .13, ns$.

Negative Affect. There was a significant within-subjects effect, $F(1, 72) = 3.96, p = .050$, with participants in the Out-and-Rejecting and Out-and-Accepting conditions reporting less negative affect compared to measures taken following the Neutral imagined interaction. However, there was no significant between-subjects effect, $F(1, 72) = .430, ns.$, and no significant interaction, $F(1, 72) = 1.79, ns.$

Physical Symptoms. There was no significant within-subjects effect, $F(1, 72) = .662, ns.$, nor between-subjects effect, $F(1, 72) = .389, ns.$, nor interaction, $F(1, 72) = .837, ns.$

Cognitive Depletion. There was no significant between-subjects effect, $F(1, 72) = .925, ns.$, nor between-subjects effect, $F(1, 72) = .747, ns.$, nor a significant interaction effect, $F(1, 55) = .935, ns.$

Emotional Depletion (Accuracy). There was a significant within-subjects effect, $F(1, 72) = 13.16, p < .001, \eta_p^2 = .211$, indicating that participants overall accuracy in identifying emotional expressions improved in the second imagined interaction, compared to their accuracy following the Neutral imagined interaction. However, there was no significant between-subjects effect, $F(1, 72) = .150, ns.$, nor a significant interaction, $F(1, 72) = .930, ns.$

Emotional Depletion (Response Time). There was a significant within-subjects effect, $F(1, 72) = 30.04, p < .001, \eta_p^2 = .378$, indicating that all participants' response times decreased for the second imagined interaction, as compared to the Neutral imagined interaction. There was no significant between-subjects effect, $F(1, 72) = .001, ns.$, and the interaction was not significant, $F(1, 72) = .79, ns.$

Salivary Cortisol. All high and low controls fell within the expected ranges provided by the salivary assay supplier, with high control ranges from .747-1.25ug/dL and low control ranges

from 0.074-0.124ug/dL. There was no significant within-subjects, $F(1, 72) = 2.02, ns.$, between-subjects, $F(1, 72) = .001, ns.$, nor interaction effects, $F(1, 72) = 3.12, ns.$

Hypothesis 2: Out-and-Rejecting vs. Concealing Imagined Interactions

I hypothesized that imagining an interaction with a person from whom one must conceal one's sexual orientation might produce more negative emotional, cognitive, and physical effects than imagining an interaction with an audience than is aware of your sexual orientation and rejects you because of it. This comparison provided the opportunity to explore whether concealing your sexual orientation is as bad as or worse than being out and rejected based on your sexual orientation.

To test this hypothesis I conducted a series of 2 (between subjects variable = imagined interaction condition: Out-and-Rejecting vs. Concealing) by 2 (within-subjects variable = Neutral to subsequent condition) repeated measures ANOVA's were conducted. A within-subjects effect means that regardless of whether the subsequent imagined interaction was Out-and-Rejecting or Concealing, participants reported a significant change in a dependent variable, as compared to the Neutral imagined interaction. A between-subjects effect means that collapsed across both times of measurement there was a significant difference between the two conditions. The hypothesis is tested by the interaction between the within-subjects and between-subjects factors. An interaction effect indicates that the change in the dependent variable from the Neutral imagined interaction to the Out-and-Rejecting imagined interaction differed significantly from the change in the dependent variable from Neutral to the Concealing imagined interaction.

State Anxiety. There was no significant within-subject effect, $F(1, 72) = 2.28, ns.$, nor between-subjects effect, $F(1, 72) = .450, ns.$, nor interaction effect, $F(1, 72) = .002, ns.$ for state anxiety between the Out-and-Rejecting and Concealing imagined interactions. That is, an

imagined interaction with a rejecting person produced roughly the same increase in state anxiety as an imagined interaction with someone from whom one is concealing one's sexual orientation.

Positive Affect. There was a significant within-subjects effect, $F(1, 72) = 5.78, p = .020, \eta_p^2 = .102$, but no significant between-subjects effect, $F(1, 72) = 1.42, ns$. There was a significant interaction effect, $F(1, 72) = 8.17, p < .001, \eta_p^2 = .125$, indicating that the change in positive affect from the Neutral to Out-and-Rejecting imagined interaction differed significantly from the change in positive affect from the Neutral to Concealing imagined interaction. A paired-samples t-test comparing positive affect following the Neutral imagined interaction to positive affect following the Out-and-Rejecting imagined interaction was not significant, $t(19) = -.167, p = .434$. A paired-samples t-test comparing positive affect following the Neutral imagined interaction to positive affect following the Concealing imagined interaction was significant, $t(17) = 2.95, p = .005$. Thus, imagining an interaction in which one has to conceal their sexual orientation produced a decrease in positive affect while imagining an interaction with a rejecting audience produced no corresponding change in positive affect.

Negative Affect. There was no significant within-subjects effect, $F(1, 72) = 2.69, ns$, nor between-subjects effect, $F(1, 72) = .230, ns$. There was a significant interaction effect, $F(1, 72) = 4.93, p = .010, \eta_p^2 = .084$, indicating that the change in negative affect from the Neutral to the Out-and-Rejecting imagined interaction differed from the change in negative affect from the Neutral to Concealing imagined interaction. A paired-samples t-tests comparing negative affect following the Neutral imagined interaction to negative affect following the Out-and-Rejecting imagined interaction was not significant, $t(19) = .370, p = .358$. A paired-samples t-test comparing negative affect following the Neutral imagined interaction to negative affect following the Concealing imagined interaction was significant, $t(17) = 2.04, p = .028$. Thus,

imagining an interaction with someone from whom one must conceal their sexual orientation produced an increase in negative affect while imagining interacting with someone by whom one has been rejected produced no significant change in negative affect.

Physical Symptoms. There was no significant within-subjects effect, $F(1, 72) = .02, ns.$, nor between-subjects effect, $F(1, 72) = .08, ns.$, nor interaction, $F(1, 72) = .07, ns.$ for physical symptoms.

Cognitive Depletion. There was no significant within-subjects effect, $F(1, 72) = .04, ns.$, nor between-subjects effect, $F(1, 72) = .001, ns.$, nor interaction effect, $F(1, 72) = .05, ns.$ for the digit-span measure of cognitive depletion.

Emotional Depletion (Accuracy). There was a significant within-subjects effect for accuracy of emotion recognition, $F(1, 72) = 20.22, p < .001, \eta_p^2 = .302$, such that participants were more accurate in identifying emotional expressions following both the Out-and-Rejecting and Concealing imagined interactions than they were following the Neutral imagined interaction. There was no significant between-subjects effect, $F(1, 72) = .55, ns.$, nor a significant interaction effect, $F(1, 72) = .33, ns.$

Emotional Depletion (Response Time). There was no significant within-subjects effect, $F(1, 72) = .12, ns.$, nor between-subjects effect, $F(1, 72) = .49, ns.$ There was a significant interaction effect, $F(1, 72) = 25.96, p < .001, \eta_p^2 = .399$, indicating the change in response time on the emotion recognition task from the Neutral to the Out-and-Rejecting imagined interaction differed significantly from the change in response time on the emotion recognition task from the Neutral to Concealing imagined interaction. A paired-samples t-test comparing reaction time following the Neutral imagined interaction to reaction time following the Out-and-Rejecting imagined interaction was significant, $t(19) = 4.25, p < .001$. A paired-sample t-test comparing

reaction time following the Neutral imagined interaction to reaction time following the Concealing imagined interaction was significant, $t(17) = 2.84, p = .005$. Thus, imagining an interaction with an audience from whom one must conceal one's sexual orientation produced increased reaction times on the emotion recognition task compared to an imagined interaction with a rejecting person, which produced a decrease in reaction time.

Salivary Cortisol. There was no significant within-subjects, $F(1, 72) = 1.33, ns.$, nor between-subjects effect, $F(1, 72) = .01, ns.$, nor interaction effect, $F(1, 72) = 1.34, ns.$ for salivary cortisol.

Imagined Interaction Study Discussion

In summary, participants who imagined an interaction with a person who was aware of their sexual orientation and by whom they had been rejected reported increased state anxiety as compared to the Neutral imagined interaction. However, more telling was the fact that participants who imagined an interaction with a person from whom they had to conceal reported negative emotional effects that were equal to, or greater than the effects reported by participants who imagined interacting with someone who does not support them or accept their sexual orientation. These results suggest that concealment may be far from beneficial in these daily interactions, but rather the effort involved with keeping identity-relevant information concealed leaves some gay and lesbian people feeling emotionally drained.

Overview of Study 2: Online Diary Study

Although experimentally testing the acute effects of concealment within a controlled laboratory setting represents an important step forward in determining the direction of the causal relationships between concealment and depletion, it only represents a cross-section or snapshot in time and its artificiality may limit its generalizability. The concealment-disclosure dilemma is

not a one-off experience, rather it represents an ongoing internal struggle faced by many gay and lesbian people on a daily basis. The daily concealment-disclosure dilemmas are not only heavily influenced by experiences with discrimination, but perhaps even more importantly by the heterosexist remarks or assumptions of their interaction partners, by perceived barriers to employment and educational attainment, and by feelings of social exclusion and invisibility. Seemingly mundane daily interactions with a classmate, coworker, or waiter can take on new significance because they frequently represent a disclosure versus concealment dilemma. Should a lesbian couple correct the grocery store clerk who wrongly assumes that they are sisters? When a lesbian woman goes to her doctor and is asked about her sexual activity, use of condoms and oral contraceptives, should she allow the doctor to maintain her false assumption even if it negatively impacts their medical care or should she disclose and worry about receiving discriminatory care? If a same-sex couple wants to rent a one-bedroom apartment outside of the 'gay' village, should only one of them go to see the apartment and put their name on the lease rather than risk losing the apartment because of prejudice? Each of these scenarios is taken for granted by heterosexual people, but each of them represents a source of minority stress for gay men and lesbians (Meyer, 2003). Although some gay and lesbian people conceal their sexual orientation to a greater extent than others, there is good reason to believe that many gay and lesbian experience the concealment-disclosure dilemma to some extent through these kinds of daily incidents. These chronic experiences are not easily captured within a laboratory or in a one-hour study session. Rather, in order to capture the cumulative impact of the concealment, one must examine these experiences over a number of weeks. The online diary study examined daily experiences with concealment over a period of one month and examined how these experiences correlated with measures of psychological, cognitive, emotional, and physical depletion.

Hypotheses

The 30-day diary study was divided into ten diary entries (participants received prompts to complete their diary entries every 3 days). Depletion was assessed by comparing scores on each of the dependent variables during 3-day periods in which participants reported concealing their sexual orientation with 3-day periods in which participants did not report concealing their sexual orientation.

Hypothesis 1: Participants will report more psychological depletion during the diary periods in which they concealed their sexual orientation than during diary periods in which they did not report their sexual orientation.

Hypothesis 2: Participants will report more cognitive depletion during the diary periods in which they concealed their sexual orientation than during diary periods in which they did not report their sexual orientation.

Hypothesis 3: Participants will report more emotional depletion during the diary periods in which they concealed their sexual orientation than during diary periods in which they did not report their sexual orientation.

Hypothesis 4: Participants will report more physical depletion during the diary periods in which they concealed their sexual orientation than during diary periods in which they did not report their sexual orientation.

Method

Respondent-Driven Sampling

The diary study utilized Respondent-Driven Sampling (RDS), a sampling methodology developed by Heckathorn to make statistically-valid inferences using convenience samples in populations that are difficult to reach through conventional sampling methods (Heckathorn,

2002). These populations are often hidden as a result of social stigma and may not be easily discovered except through exploration of their social networks (Heckathorn, 1997). RDS requires that the size of each participant's personal network be known, that participants must be uniquely identified within the overall social network, and the nature of the connection between participants must also be known (Heckathorn, 2002). The respondent-driven sampling process was initiated when I contacted potential seeds or members of the target population who had strong connections to other members of the population. Seeds included employees and volunteers from Rainbow Resource Centre, Rainbow Pride Mosaic, and Outwords magazine. I provided the seeds with more information about the study and asked them for their assistance in recruiting members of the target population who met the inclusion criteria. Seeds received 3 recruitment coupons (see Appendix R) to recruit eligible participants with whom they have relationships (referred to as recruits). These recruits then repeated this process, receiving their own set of recruitment coupons with which to recruit their connections. This process moved quickly at first and then slowed substantially over the course of the first two weeks of recruitment. This prompted the primary researcher to expand the geographical boundaries of the initial recruitment area to include Northern Ontario. This resulted in a total recruitment of 62 participants. Three participants were subsequently removed from analyses due to a large number of incomplete diary entries.

Participants

Fifty-nine participants (38 females and 21 males) took part in a 30-day online diary study. Participants' ages ranged from 18 to 57 years ($M = 22$ years). In order to be eligible to take part in the diary study, participants were pre-screened by the primary researcher. The pre-screening involved a question about whether they had regular access to a computer, and whether

they had disclosed their sexual orientation in all domains of their life, or whether there were people to whom they had not disclosed. The sample was relatively homogenous with respect to ethnicity, with 81.7% of the sample self-identifying as Caucasian/White, and 90% of the sample reporting Canada as their country of birth. Self-identified sexual orientation revealed more diversity, with participants identifying as lesbian (38.3%), gay (31.7%), and queer (30%).

Procedure

Participants were recruited for the study by friends or acquaintances who provided them with an electronic respondent-driven sampling coupon containing a specific participant code. Upon receiving this coupon, interested individuals emailed me and I provided them with a SurveyMonkey web link to an informed consent form (see Appendix S) and the pretest questionnaire. This questionnaire included the same set of measures utilized in the imagined interaction study including measures of "outness" or disclosure of sexual orientation, of identity salience and centrality, perceived and actual discrimination, social support, self-esteem, and paranoid social cognition (see Appendices E-L). Once this pretest questionnaire was completed, participation in the study officially commenced. Every 3 days I sent participants an email prompting them to complete the appropriate diary entry related to their experiences over the previous 3 days. This email contained a SurveyMonkey web link and in order to complete it, participants first had to enter their unique participant code. If a participant failed to complete a diary entry within 24 hours of receiving the original email, I sent a reminder email, encouraging them to complete the diary as soon as possible. Upon completing the 10 diary entries, I sent participants a debriefing email thanking them for their commitment to the study and explaining the general hypotheses behind the research (see Appendix T).

Materials

Pretest Questionnaire

Participants completed the same set of pretest measures of individual differences outlined in the method section of the imagined interaction study (see Appendices E-L).

Experimental Measures

Concealment Questions. Participants were asked the following question; "In the past 3 days, how many times were you in a situation in which you felt that you had to conceal your sexual orientation?" If they had concealed in the previous 3 days, they were then asked to describe the situation. This question was embedded within a set of questions about their exposure to gay and lesbian-related content in the media, so as to reduce the possibility for response bias to the concealment question (see Appendix U). Participants' open-ended responses illustrated their reasons for concealment and the most common strategies utilized (see excerpts of the transcribed open-ended responses in Appendix V).

Psychological well-being. Participants completed the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) and the state anxiety items from the State-Trait Anxiety Inventory (STAI; Spielberger, 1970) (see Appendices M and N).

Depletion. Participants completed the 14-item Shirom-Melamed Burnout Questionnaire (SMBQ, Melamed, Kushnir, & Shirom, 1992), which consists of three subscales: cognitive weariness, emotional exhaustion, and physical fatigue (see Appendix W). The cognitive weariness subscale includes items such as, "My thinking process is slow" and "I have difficulty concentrating." The emotional exhaustion subscale includes items such as "I feel I am unable to be sensitive to the needs of those around me." The physical fatigue subscale includes items such as, "I feel like my batteries are dead." Each item was scored on a 7-point Likert scale from 1

(*Almost never*) to 7 (*Almost always*). The SMBQ has been shown to have reliability coefficients ranging from 0.80 to 0.90 (Soderstrom et al., 2004).

Physical health. Participants' physical health was assessed using two measures; a subset of items from the Cohen-Hoberman Inventory of Physical Symptoms (CHIPS; Cohen & Hoberman, 1983) and a health-related behavior measure developed specifically for this project. The symptom checklist consisted of 11 symptoms divided into subsets of anxiety, indigestion, and pain (see Appendix X). Participants were asked to indicate the extent to which each problem has bothered them during the past 3 days. Items were rated on a 5-point scale from 0 (*Not been bothered by the problem*) to 4 (*The problem has been an extreme bother*). The Cronbach's alpha for the full scale is .88 (Cohen & Hoberman, 1983). Participants were also asked to respond to complete a health behaviours checklist consisting of questions about their eating, exercise, smoking, drinking, and sleep habits (see Appendix Y).

Study 2: Online Diary Study Results

Analysis Plan

Analysis of the online diary study results began with descriptive statistics, focusing on the overall levels of outness reported by participants and the frequency of concealment experiences reported over the 30-day diary period. The latter analysis resulted in the division of participants into two groups: sometimes-concealers and non-concealers. Respondent-driven sampling analyses included a partition analysis which examined the network size and recruitment patterns of diary study participants based on their gender. Analysis of the pretest questionnaire followed, with descriptive statistics provided. Correlations between the pretest measures and the dependent measures were examined. Finally, analysis of the dependent variables was broken down into between-subjects and within-subjects effects. The between-subjects analyses compare

the participants who did not report having concealed even one time over the course the study, referred to as non-concealers, to the remaining participants who did conceal at least once over the course of the study, referred to as sometimes-concealers. Independent-samples t-tests included all participants and compared scores on the dependent measures between the non-concealers and the sometimes-concealers. Paired-samples t-tests included only participants who concealed their sexual orientation at least once over the course of the diary study. These within-subjects analyses involved comparing scores on the dependent measures during concealing and non-concealing periods.

Diary Questions

Diary study questions pertaining to experiences of concealment in the previous days were counterbalanced with the cognitive, psychological, emotional, and physical dependent measures in order to minimize the potential for order of presentation effects (concealment questions at the start of the diary entry versus concealment questions at the end of the diary entry). See Table 4 for means, standard deviations, ranges, and reliability coefficients for the dependent variables.

Table 4

Diary Entry Means, Standard Deviations, Range, and Reliability

	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>α</i>
State Anxiety	39.75	12.56	57.00	.94
Positive Affect	32.53	8.48	35.00	.90
Negative Affect	20.05	6.72	34.00	.84
Physical Symptoms	7.88	6.88	32.00	.82
Burnout Total	48.88	17.91	77.00	.92
Physical Burnout	21.98	9.38	36.00	.93
Cognitive Burnout	16.02	8.58	30.00	.94
Emotional Burnout	10.88	3.47	18.00	.74

Frequency of Concealment Experiences

Overall frequency of concealment was relatively low during the 30-day diary study period ($M = 2.09$). However, there was significantly variability among participants, with the frequency of concealment varying from 0 to 6 instances over the course of one month. Of those participants who reported no instances of concealment, two were male and nine were female. Of those participants who reported concealing at least once during the study period, nineteen were male and twenty-nine were female.

Non-Concealers. In order to be eligible to participate in the diary study, participants had to self-identify as gay/lesbian/queer and they had to be concealing or not "out" in at least one domain of their lives. This was, of course, not something that I could verify, but it was the selection criterion passed along to the original RDS seeds and included in the directions for

recruiting others. Given this selection criterion, and the 30-day duration of the study, the researcher did not anticipate finding participants who never concealed over the course of the study. However, 11 participants (18.7%) did not report having concealed even one time over the course of 30 days. This presented an unexpected analytical opportunity to conduct between-subjects analyses in addition to within-subjects analyses. The between-subjects analyses compare those participants who never concealed with those who concealed anywhere from 1 to 6 times over the course of 30 days. This unexpected opportunity only improved the quality and scope of the analyses, adding much-needed nuance to the results. Potential explanations for why 11 participants reported no concealment during the study period will be examined in detail in the discussion section, but it certainly points to the importance of examining diverse strategies of concealment as a mechanism for avoiding social situations in which one might need to conceal.

"Outness Index"

Participants' level or degree of "outness" was examined in two ways. The number of yes responses they provide to each of 13 items asking about people in their lives who could be aware of their sexual orientation was summed to create an overall "outness" index. The number of yes responses was divided by the number of categories relevant to them, as not all participants have a brother, sister, landlord, and so on. This division produced an overall percentage "outness" figure, which is a crude index of participants overall disclosure of their sexual orientation. Participants' "outness" ranged from a low of 17% to 100%, with a mean percentage "outness" of 73%. This indicates that the sample represents a relatively "out" group of gay and lesbian people. However, all participants reported that they were not "out" to at least one person that they interact with in their daily lives.

Overall concealment did not significantly differ between the non-concealers and the sometimes concealers, $F(1, 52) = .16, ns$. However, the number of people participants indicated that they were "out" to was positively correlated with pretest centrality, $r(54) = .330, p = .014$, actual experiences with discrimination, $r(54) = .346, p = .010$, and social support, $r(54) = .357, p = .008$. In order to potentially tease apart the differences between being "out" to one's immediate family and being "out" to one's coworkers and managers, family "outness" and work "outness" totals are also calculated by simple summing the number of yes response to the relevant items. Once again there were no significant differences between the non-concealers and the sometimes concealers on these subtotals. However, pretest centrality was positive correlated with family "outness" $r(54) = .363, p = .006$, but not with work "outness," $r(54) = .180, ns$. By contrast, social support was positively correlated with "outness" at work, $r(54) = .327, p = .011$, but not with family "outness," $r(54) = .097, ns$. This falls in line with the low levels of social support from family members reported by participants.

Sex of Subject Effects

A multivariate Analysis of Variance (ANOVA) yielded a non-significant effect for sex of subject by C-group (non-concealers versus sometimes concealers), $F(1, 41) = .93, ns$. As such, no further sex of subject analyses will be presented.

Respondent Driven Sampling (RDS) Network Analysis

The diary study sample was comprised of sixty-two participants, thirty-one of whom were recruiters (seeds) and thirty-one of whom were recruits. This is not the ideal composition for an RDS sample and as such, it significantly restricted the benefits of using RDS instead of a traditional snowball sampling approach. The goal of using RDS was to generate or encourage long recruitments chains that penetrated deeper into the gay and lesbian community, so as to

reach participants who were not as well-connected to the community or less "out." Recruitment chain length is measured in waves, with each wave representing one-step or recruitment along the chain. Participants recruited directly by the researcher (seeds) are counted as wave zero and are excluded from RDS analyses. Participants recruited by the seeds are counted as wave one, those individuals whom they recruit are counted as wave two, and this process continues into a hypothetical equilibrium is reached (Heckathorn, 2007). The use of RDS proved more challenging than was expected with half of the sample comprised of seeds and only a small number of long recruitment chains generated. Some participants did not recruit any other gay and lesbian people. Several participants recruited only one other gay or lesbian person. For example, Figure 1 shows that participant 57 recruited participant 4 and that participant 54 recruited participant 60. There were a few longer recruitment chains that demonstrated the promise of RDS as a sampling methodology. For example, Figure 1 shows that participant 14 recruited participants 36 and 16, who subsequently recruited seven other participants between them. However, this was the exception and despite frequent email prompts by the primary researcher, only a small number of participants utilized all three of the recruitment coupons they were given. However, information about the recruitment patterns of participants based on gender provides some insight into the size and composition of the social networks of gay men and lesbians.

Figure 1

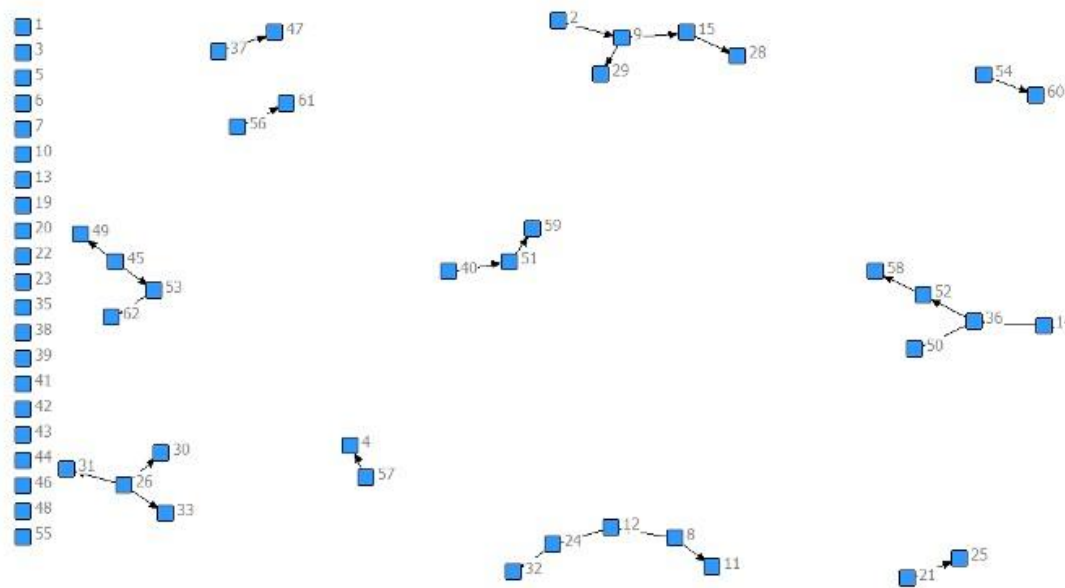
Respondent-driven Sampling Recruitment Chains

Figure 1. Node numbers represent participant codes. Arrows indicate the direction of participant recruitment.

Partition Analysis

Using RDSAT 7.1, a respondent driven sampling analysis tool (Volz, Wejnert, Cameron, Spiller, Barash, Degani, and Heckathorn, 2012), a partition analysis was conducted in order to divide the sample into non-overlapping groups, or partitions, and to provide continuous estimates on those groups. The default settings recommended by Heckathorn (2007) were utilized for this analysis, including the dual component estimate of average network size known to produce the most stable estimates. The number of re-samples (the number of times the data are re-sampled in order to derive bootstrap confidence intervals) was set at 2500 for 95% confidence intervals. The enhanced data smoothing algorithm was utilized, which prevents divide by zero errors by adding

a tiny, non-zero number (0.0001) to all cells in the recruitment matrix (Volz, Wejnert, Cameron, Spiller, Barash, Degani, and Heckathorn, 2012).

Recruitment by Gender. There were 39 females and 23 males in the original sample, and although two participants were excluded from analysis of the dependent measures as a result of a significant portion of missed diary entries, it is important to examine the full recruitment picture. Recruitment patterns by gender are presented in Table 5. Female recruiters recruited significantly more participants than male recruiters and as indicated by the transition probabilities and by the degree of homophily, female recruiters were significantly more likely to recruit other females than they were to recruit males. By contrast, male recruiters were only marginally more likely to have recruited females than to have recruited males. Female recruits reported significantly larger social networks ($M = 16.22$) than did male recruits ($M = 7.28$). Network homophily is a measure of preference for recruiting members of one's own group and provides an indication of the recruitment effectiveness among a social network. Homophily scores range from -1 (heterophily) to + 1 (homophily). Female recruiters showed a strong preference for recruiting other females (homophily = .405) while male recruiters showed a slighter smaller preference for recruiting females rather than other males (homophily = -.228). Importantly, RDSAT estimates of the population proportion of males and females differed significantly from the "naive" sample population portions. That is, adjusting for average network size, over-recruitment, and homophily, the RDSAT estimate of the population proportion of gay males and females is relatively equal. The actual sample proportion is skewed in favour of a greater number of females.

Table 5

Participant Recruitment Pattern by Gender

Recruiters	<u>Recruits</u>		
	Females	Males	Total
Females	13.00	7.00	20
Transition Probability	.65	.35	1
Males	6.00	5.00	11
Transition Probability	.55	.45	1
Total Distribution of Recruits	19.00	12.00	31
Estimated Population Proportion	.41	.59	1
Sample Population Proportion	.63	.37	
Mean Network Size	16.22	7.28	
Homophily	.41	-.23	

Note. n = 31 as only participants recruited by seeds are included in RDS analyses.

Pretest Questionnaire

The pretest questionnaire measures of centrality, salience, perceived and actual discrimination, social support, and paranoid social cognition, were highly correlated (see Table 6). Moreover, several of the pretest measures were significantly correlated with the dependent measures. A significant positive correlation between a pretest measure of salience and a dependent variable such as negative affect indicates that the more salient one's sexual orientation, the more negative affect one reported overall in the study period. A significant negative correlation between a pretest measure of social support and a dependent variable such as emotional burnout, indicates that the more social support an individual perceives they have, the

less emotional burnout they report during the study period. The means, standard deviations, ranges, and reliability coefficients for each of the pretest measures are presented in Table 7.

Table 6

Diary Study Pretest Measure Correlation Matrix

<i>Pretest Measure</i>	1	2	3	4	5	6	7
1. Centrality	-						
2. Salience	.314*	-					
3. Perceived Discrimination	.018	.287*	-				
4. Actual Discrimination	.208	.024	.444**	-			
5. Social Support	-.012	-.237	-.350**	-.036	-		
6. Self-Esteem	-.041	-.204	-.188	-.104	.364**	-	
7. Paranoid Social Cognition	-.045	.502**	.532**	.445**	-.242	-.381**	-

Note. * = Correlation is significant at the 0.05 level (2-tailed), ** = Correlation is significant at the 0.01 level (2-tailed)

Table 7

Diary Study Pretest Measures Means, Standard Deviations, Ranges, and Reliability Coefficients

	<i>M</i>	<i>SD</i>	<i>Range</i>	<i>α</i>
Centrality	18.48	4.38	18.00	.82
Saliency	14.02	3.70	18.00	.70
Perceived Discrimination	31.32	12.22	52.00	.92
Actual Discrimination	19.82	7.55	27.00	.89
Social Support	65.36	12.79	58.00	.88
Self-Esteem	64.96	18.49	72.00	.89
Paranoid Social Cognition	16.59	4.42	22.00	.69

Correlations Between Pretest Measures and Dependent Measures

Perceived discrimination was negatively correlated with positive affect, $r(58) = -.366$, $p = .004$, the number of alcoholic beverages consumed, $r(58) = -.327$, $p = .011$, and the number of times one exercised in 30 days, $r(58) = -.328$, $p = .011$. It was positively correlated with trouble sleeping, $r(58) = .270$, $p < .039$. Interestingly, actual experiences with discrimination were positively correlated with different dependent variables than perceptions of discrimination. Actual experiences of discrimination were positively correlated with the number of physical symptoms reported, $r(58) = .267$, $p = .038$, and with emotional burnout, $r(58) = .533$, $p < .001$. Overall, perceptions and actual experiences with discrimination based on one's sexual orientation appear to be strongly correlated with poorer emotional well-being, physical health, and maladaptive health decisions.

Social support was negatively correlated with amount of maladaptive eating habits, $r(58) = -.343, p = .008$, the number nights one had trouble sleeping, $r(58) = -.266, p = .005$. It was positively correlated with number of alcoholic beverages consumed, $r(58) = .358, p = .006$. Participants who perceive themselves to have greater social support appear better off in terms of healthy eating and sleep habits. Interesting, but perhaps not surprising, is the fact that a greater amount of social support was associated with consuming more alcoholic beverages. Perhaps consumption of alcohol constitutes part of a coping strategy for gay and lesbian people, but only when they have a support network to spend time with.

Self-esteem was positively correlated with positive affect, $r(58) = .528, p < .001$, but negatively correlated with number of physical symptoms reported, $r(58) = -.332, p = .010$, state anxiety, $r(58) = -.592, p < .001$, negative affect, $r(58) = -.536, p < .000$, emotional burnout, $r(58) = -.437, p < .001$, cognitive burnout, $r(58) = -.404, p = .001$, concealment, $r(58) = -.278, p = .002$, maladaptive eating habits, $r(58) = -.400, p = .002$, and number of nights trouble sleeping, $r(58) = -.374, p = .004$. Self-esteem may act as a buffer for participants, positively correlating with better overall emotional and physical well-being, as well as lower likelihood of concealing. Alternatively, it is possible that not concealing as frequently results in higher self-esteem and better overall well-being.

Paranoid social cognition was negatively correlated with positive affect, $r(58) = -.363, p = .005$, but positively correlated with the number of physical symptoms reported, $r(58) = .283, p = .031$, overall burnout, $r(58) = .266, p = .041$, emotional burnout, $r(58) = .359, p = .021$, concealing, $r(58) = .261, p = .005$, and the number of nights with trouble sleeping, $r(58) = .366, p = .005$. Feeling that one's sexual orientation is transparent, and managing intrusive thoughts about one's sexual orientation, was correlated with more poorer emotional and physical well-

being. Moreover, the more paranoid social cognition participants reported at pretest, the more likely they were to have concealed during the study period.

Perceived and Actual Experiences with Discrimination

The Perceived Discrimination Scale (PDS) and Actual Discrimination Scale (ADS) are 9-item scales with parallel wording, measured on a 7-point Likert scale. Mean responses for PDS items ranged from 2.47 to 4.05, while mean responses for the ADS items were considerably lower, ranging from 1.45 to 2.92. Although perceived and actual experiences with discrimination were significantly correlated, $r(59) = .44, p < .001$, the overall means were significantly different. The overall mean of 3.48 for the PDS was significantly higher than the overall mean of 2.20 on the ADS, $t(59) = 7.99, p < .001, d = 1.10$. This difference held for both non-concealers and sometimes concealers with both groups perceiving significantly greater discrimination than they reported having experienced. A 2 (between-subjects: non-concealers vs. sometimes-concealers) by 2 (within-subjects: Perceived discrimination vs. Actual Discrimination) ANOVA revealed that sometimes concealers perceived greater levels of discrimination ($M = 3.67$) than the non-concealers ($M = 2.51$), $F(1, 57) = 7.19, p = .010, \eta_p^2 = .112$ and that the sometimes concealers reported having experienced significantly more discrimination ($M = 2.32$) than the non-concealers ($M = 1.71$), $F(1, 57) = 5.02, p = .029, \eta_p^2 = .081$. Although these differences are meaningful, it is important to qualify these results by emphasizing that both the PDS and ADS are measuring individual's perceptions and may represent under or overestimations of discrimination based on their sexual orientation.

Social Support Subscales

The 12-item Multidimensional Scale of Perceived Social Support (Zimet, Dahlem, Zimet, & Farley, 1988) is made up of 12 items, each rated on a scale from 1 (*Very strongly disagree*) to

7 (*Very strongly agree*). The overall level of perceived social support was high for all participants ($M = 5.5$) and a one-way ANOVA revealed no significant difference in perceived social support between non-concealers ($M = 5.58$) and sometimes concealers ($M = 5.40$), $F(1, 58) = .225$, *ns*. However, the MSPSS is comprised of three subscales (family, friends, significant others), each of which is assessed with four items (see Appendix J). Analyses of these subscales revealed significant differences in levels of perceived support between family, friends and significant others. Both the non-concealers and sometimes concealers reported perceiving significantly more support from their friends ($M = 5.81$) than they did from their family ($M = 4.64$), $t(59) = 5.86$, $p = .000$, $d = .78$. Similarly, they reported perceiving significantly more support from their significant others ($M = 5.84$) than they did from their family ($M = 4.64$), $t(59) = 4.12$, $p < .001$, $d = .54$.

Dependent Measures

The results for the dependent measures are broken up into between-subjects and within-subjects effects. The between-subjects analyses compare the 11 participants (18.7%) who did not report having concealed even one time over the course of 30-day diary study, referred to as non-concealers, to the remaining 48 participants who did conceal at least once over the course of 30-day diary study, referred to as sometimes-concealers. Independent-samples t-tests included all participants and compared scores on the dependent measures between the non-concealers and the sometimes-concealers. Paired-samples t-tests included only participants who concealed their sexual orientation at least once over the course of the diary study. Within-subjects analyses compared scores on the dependent measures during concealing and non-concealing periods.

Psychological well-being

State Anxiety. There was a significant between-subjects effect for state anxiety $t(58) = -4.43$, $p < .001$, $d = 1.217$, with non-concealers reporting significantly less state anxiety ($M =$

31.2) than sometimes concealers ($M = 40.1$). Moreover, there was also a significant within-subjects effect $t(43) = 2.15, p = .038, d = .323$, with sometimes concealers reported more state anxiety during periods in which they concealed ($M = 42.0$), compared to ($M = 38.7$) periods in which they did not conceal.

Positive Affect. There was no significant between-subjects effect for positive affect $t(58) = -1.77, ns$. However, there was a significant within-subjects effect $t(43) = 2.65, p = .011, d = .473$, with sometimes concealers reported significantly more positive affect during periods in which they did not conceal ($M = 30.9$) compared to period in which they did conceal ($M = 28.4$).

Negative Affect. There was a significant between-subjects effect for negative affect, $t(58) = 5.10, p < .001, d = -1.396$, with non-concealers reporting significantly less negative affect ($M = 14.1$) than sometimes concealers ($M = 19.0$). However, the within-subjects effect was not significant, $t(43) = 1.77, ns$.

Burnout. There was a significant between-subjects effect for burnout, $t(58) = 4.40, p < .001, d = -1.212$, with non-concealers reporting significantly less burnout ($M = 33.9$) than sometimes concealers ($M = 46.3$). The within-subjects effect for burnout was also significant $t(43) = 2.24, p = .030, d = 0.339$, with a sometimes concealers reported significantly less burnout during periods in which they did not conceal ($M = 45.1$) compared to periods in which they concealed ($M = 49.6$).

Burnout subscales. The burnout questionnaire is comprised of three subscales: physical fatigue, cognitive weariness, and emotional fatigue. There were significant between-subjects effects for each subscale. Sometimes concealers reported significantly more physical fatigue ($M = 20.4$) than non-concealers ($M = 15.2$) $t(58) = 3.60, p < .001, d = .97$. Sometimes concealers reported significantly more cognitive weariness ($M = 15.3$) than non-concealers ($M = 10.3$), t

(58) = 4.10, $p < .001$, $d = 1.36$. Sometimes concealers reported significantly more emotional fatigue ($M = 10.8$) than non-concealers ($M = 8.5$), $t(58) = 3.96$, $p < .001$, $d = 1.29$. However, there were no significant within-subjects effects for each burnout subscale, physical fatigue, $t(43) = -.513$, *ns.*, cognitive weariness, $t(43) = -.128$, *ns.*, and emotional fatigue, $t(1, 43) = -.812$, *ns.*

Physical Health

Physical Symptoms. There was a significant between-subjects effect for physical symptoms, $t(57) = 3.17$, $p = .042$, $d = .751$, with non-concealers reporting significant fewer physical symptoms from the checklist ($M = 2.9$) compared with sometimes concealers ($M = 5.7$). There was also a significant within-subjects effects, $t(43) = 2.98$, $p = .005$, $d = 0.396$, with sometimes concealers reporting significantly fewer physical symptoms during periods in which they did not conceal ($M = 5.4$) compared to period in which they did conceal ($M = 7.5$).

Health Behaviours Checklist (HBC). The HBC was a composite index of both health promoting and maladaptive health behaviours, including 4 items about maladaptive or unhealthy eating habits, 1 item on smoking, 1 item on alcohol consumption, 1 item on frequency of exercise, and 1 item on trouble sleeping. This measure did not hold together well with an average inter-item correlation of .086. This can be explained in large part by the smoking and drinking items. There were only a small number of participants who appeared to regularly smoke cigarettes and consume alcoholic beverages. It is unreasonable to expect that non-smokers and infrequent drinkers would make sudden changes to these habits, even when facing the stresses associated with concealing their sexual orientation. There was no significant main effect for trouble sleeping, $t(43) = .83$, *ns.*, nor for exercise, $t(43) = .596$, *ns.* The 4 food-related items

were combined into an overall food total, and there was no significant within-subjects effect, $t(43) = 1.49, ns$.

Diary Study Discussion

The overall pattern of results for the diary study maps on quite closely to the results of the imagined interaction laboratory study, amplifying the argument for the depleting effects of concealment. One notable exception is the physical health measures, which manifested in the 30-day diary study but not in the acute laboratory study setting. This is perhaps unsurprising, that it is repeated or chronic concealment that is more likely to exert measurable physiological effects. Whether concealment is experienced acutely, through a brief, but vivid imagined interaction task, or whether it is experienced as part of one's everyday life, it appears to have a significant negative impact on the emotional and physical well-being of gay and lesbian people. In the diary study, these significant effects were evidenced in two key ways. By comparing the non-concealers to the sometimes concealers, it became clear that concealing was associated with poorer emotional well-being and physical health. The ability to conceal, and to pass as heterosexual in society, does not come without costs, and those gay and lesbian participants who chose not to conceal during their daily lives, appear better off for it. The sometimes concealers, who concealed their sexual orientation at least once during the course of the diary study, reported more emotional and physical health issues during those periods in which they concealed their sexual orientation, as compared to those periods in which they did not conceal. This suggests that for many gay and lesbian people, concealment is not an all or nothing phenomenon, and that the decision to reveal or disclose their sexual orientation is one that they are constantly making. When they do choose, or feel compelled to conceal, they suffer the consequences in terms of poorer emotional and physical well-being. This study was merely a snapshot of these individuals'

lives, but if these 30 days were an accurate reflection of their everyday life, the cumulative toll of concealment cannot be overstated.

General Discussion

The fact that bearing a stigmatized identity represents a significant burden is well-documented and widely accepted in the field of social psychology (see Inzlicht, McKay, & Aronson, 2006; Link & Phelan, 2001; May, Cochrane, & Barnes, 2007; Pascoe & Richman, 2009). A considerable body of research has documented the ways in which an individual's race, religion, age, and physical disability, for example, can negatively impact their lives. Many of these individuals face discrimination socially and in their places of work and learning. They report higher levels of anxiety, depression, and maladaptive coping in the form of smoking and alcohol consumption (see Clarke & Coughlin, 2012). People with minoritized, stigmatized characteristics often lead stressful lives, punctuated by challenges not faced by individuals who belong to those in the dominant majority. However, a long-standing belief in the field of stigma research was that individuals with invisible or concealable stigmas, such as those who identify as gay or lesbian, could avoid many of these negative consequences by means of passing as normal in society (Goffman, 1963). In essence, the concealability of one's stigmatized identity has long been viewed as advantageous, and it is only in recent years that research has begun to examine the unique challenges and stresses faced by these individuals (see Chaudoir, Earnshaw, and Aniel, 2013; Chaudoir & Fisher, 2010; DeJordy, 2008; Meyer, 2003, Pachankis, 2007). The two studies presented here suggest that concealability offers little in the way of benefits. To the contrary, concealment appears to have a significant negative impact on the lives of gay and lesbian people in terms of their psychological well-being, their emotional regulation, and their physical health.

In Study 1, the acute effects of concealment were examined utilizing an imagined interaction paradigm in which participants were asked to vividly imagine and talk through real life interactions with certain people in their lives. Following each imagined interaction, participants completed a set of cognitive, emotional, psychological, and physical health measures to examine the impact of these imagined interactions. The results showed that imagining an interaction with a person who is aware of one's sexual orientation and from whom one has received a rejecting response produced more state anxiety, than did imagining an interaction with an accepting audience. Additionally—and perhaps more importantly—the results showed that imagining an interaction with a person from whom one must conceal produced some negative emotional effects that were equal to or greater than imagining an interaction with somebody to whom one has disclosed and by whom one has been rejected. Concealment appeared to offer little benefits for participants. Instead, it resulted in negative emotional effects that were, in some cases, significantly stronger than those reported after imagining an interaction with someone who had already rejected them. The potential implications of this cannot be overstated.

A significant aspect of the reticence on the part of gay and lesbian people to disclose their sexual orientation stems from their belief that concealing will help them avoid the negative feelings and negative experiences that accompany rejection. However, participants' responses following completion of the Concealment imagined interaction suggests that concealment offers no such benefit. To the contrary, vividly imagining an interaction in which they had to conceal their sexual orientation resulted in increases in negative affect and decreases in positive affect (as compared to the neutral imagined interaction). Feeling that one has to hide aspects of their daily life and of their identity, even in a brief laboratory task, may bring to the surface feelings of inauthenticity, shame, and anxiety. In turn, these negative feelings appear to be ego-depleting.

The feelings may interfere with gay or lesbian individuals' emotional regulation, as evidenced by the significant increase in time taken to accurately identify the emotions of others following the Concealment imagined interaction. It may be that the efforts expended on suppressing certain information, uses up limited self-regulatory resources, leaving gay and lesbian individuals with less left in the tank, so to speak, for effortful tasks like facial emotion recognition. The potential implications of this are also significant, as a key component of establishing and maintaining healthy relationships with others lies in the ability to accurately (and efficiently) read their emotions. One possibility is that concealment renders gay and lesbian individuals more self-focused than other-focused, such that they are using up more resources being concerned with what they are saying and the cues they might be giving away, and thus they have fewer resources to pick up on their interaction partners' non-verbal communication. Social interactions and relationships involve a sort of dance of reciprocity, and concealment puts up a barrier to such reciprocity, potentially resulting in awkward, aversive interactions with others, leaving one or both parties with a negative impression of the other. Moreover, as DeJordy (2008) argued, some degree of "passing" may suffice in short-term interactions where there is little expectation of reciprocal self-disclosure, but over the longer-term, chronically omitting personal information about oneself may arouse suspicion and engender negative feelings from interaction partners. This scenario differs from interacting with someone who has already rejected a person based on his/her sexual orientation. Although that interaction may be uncomfortable, it may be less likely to be weighed down by uncertainty, hypervigilance, and high levels of self-monitoring. In the Out-and-Rejecting imagined interaction one "knows the score," and perhaps one knows what to expect from their interaction partner, even if that includes disparaging comments or coldness. In social interactions with individuals who are aware of and who do not accept their sexual

orientation, stigmatized individuals may make different attributions and engage in different forms of coping that buffer or offset some of the negative aspects of those interactions. Social interactions in which one conceals offer no such buffers.

No corresponding changes in cognitive efficiency were evidenced in the results from the digit-span working memory task. The non-significant effects on the cognitive depletion measure may be more reflective of the actual task than of the impact of imagined interactions. The digit-span task evidenced a ceiling effect, such that most participants performed exceptionally well, remembering most of the words at the end of each trial. However, it was not a timed task and thus afforded participants a considerable amount of time to enter the words accurately. Future research should consider placing a time limit on this task and measuring the response time, similar to the procedure utilized with the emotion recognition task, so that even if accuracy scores remain high, the effortful nature of the task might be assessed through reaction times. This would better reflect the challenges faced by most people in their workplaces or educational institutions—a situation in which cognitive load is combined with time pressure. It is possible that under such circumstances, the depleting effects of concealment would be evidenced through diminished working memory capacity.

The fact that no significant effects were found on the physical health measures is not surprising given the brevity of the imagined interactions. It is possible that such a brief imagined interaction in the laboratory is not strong enough to evoke a significant increase in salivary cortisol, nor a significant change in physical symptoms. The measure of physical symptoms adapted for use in this study were perhaps unsuitable to detect sudden shifts in physical symptoms. Future research utilizing an imagined interaction paradigm should consider measuring galvanic skin response, blood pressure, or heart rate to accurately assess acute

physiological changes. However, over the long-term, repeated experiences with concealment may exert a measurable impact on physical health, as the diary study results offer some preliminary evidence for.

In Study 2, a 30-day online diary study provided a test of the cumulative impacts of concealment on the cognitive, emotional, psychological, and physical health of gay and lesbian people. Every 3 days, participants were prompted to complete a series of measures, including questions about whether they had concealed their sexual orientation in the previous 3 days. The results of the diary study served to confirm and amplify many of the results of the imagined interaction laboratory experiment. Participants who concealed their sexual orientation at least once over the course of the study reported more state anxiety, more negative affect, less positive affect, more physical, cognitive, and emotional burnout, and a greater number of physical symptoms than participants who did not conceal their sexual orientation during those 30 days. Moreover, among those who sometimes concealed, participants who concealed were worse off emotionally and physically during the periods in which they concealed compared to the periods in which they did not. The fact that a small number of participants in the diary study did not report concealing at all during the 30-day diary study offered a unique opportunity to examine the between-subjects and within-subjects effects of chronic or cumulative concealment on psychological, emotional, and physical health. The pattern of results that emerged suggest that not only was concealing detrimental to participants' psychological well-being, but it also left them more depleted physically, cognitively, and emotionally. Moreover, those participants who did not report concealing were significantly better off than the participants who reported concealing even once during the diary study period. Although overall rates of concealment were fairly low, participants reported more depletion following periods in which they felt compelled to

conceal their sexual orientation than they did during periods in which they did not conceal. Thus, concealment—long thought to be an advantageous identity management strategy—was correlated with more anxiety, burnout, and self-reported physical symptoms over the course of 30 days. Although the diary study data are correlational and cannot definitively speak to cause and effect, the significant results on the psychological and emotional measures mirror the results of the imagined interaction laboratory study. Moreover, the diary study also revealed significant negative effects of concealment on cognition as well as physical symptoms and physical burnout; further suggesting that cumulative or repeated concealment may exert a measurable toll where acute instances may not. When viewed together, these studies create a compelling argument that concealment is a significant contributor to ego-depletion that manifests through multiple channels (psychological, emotional, cognitive, and physical); the effects of both are acute and cumulative, representing a unique and additive form of the minority stress introduced by Meyer (2003). Hiding a part of one's identity constitutes a unique burden faced regularly by those with concealable stigmatized identities. Although "passing" may help gay and lesbian people navigate certain social interactions without being "discredited" or discriminated against, it is not without significant private costs. It requires them to tap into their limited self-regulatory resources in order to suppress certain cognitions and emotions, and whether it be in a brief imagined interaction or on a daily basis, this leaves them with fewer resources left to deal with subsequent challenges. It also leaves them in a more negative emotional state, experiencing more anxiety, negative affect, and feelings of not being true to themselves. None of this fits with the long-standing perception of concealability as an advantageous identity management strategy.

The most common strategy of concealment utilized by participants was omission, with most of the sometimes concealers reporting that they left out personal information during social

interactions rather than directing the conversation or explicitly lying. In their open-ended explanations of their concealment experiences, participants frequently rationalized their behaviour by saying that they were private individuals or by responding that the situation didn't call for their disclosure. Concealment may represent a form of cognitive dissonance for participants who pride themselves on being open and confident about their sexual identity. Thus, concealment represents an aversive psychological state in which their actions do not align with their internal beliefs (Festinger, 1957). Participants who concealed may attempt to reduce this aversive state by justifying and rationalizing their concealment. They may dismiss a situation as inappropriate for personal disclosure, cite concern for the harm their disclosure would have on important others, or cite concern for the negative consequences disclosing would have on their interpersonal relationships or career trajectories. These justifications may or may not be grounded in reality, but regardless, they may serve to ameliorate some of the negative affect associated with the incongruence between beliefs and actions. Although on the surface omission appears to be the least effortful form of concealment, doing so on a daily basis may be depleting. When fabrication was reported it was generally in the form of using shortened or alternative names to refer to their significant others, or masquerading as friends as events perceived to be unwelcoming. Avoidance was another common approach but the avoidance of which participants wrote involved specific people or situations they perceived to be unsupportive or threatening. This is not surprising given the difficulty of avoiding social situations in which heterosexual people are present.

Participants' open-ended responses also offered evidence of Gilovich, Medvec, & Savitsky's (2000) self-as-target bias. Several participants reported feeling that they were being watched and commented on by fellow bus passengers, coworkers, and janitorial staff. These

biased impressions of others led them to alter their behaviour by sitting further apart or refraining from holding hands with their significant others. Although it cannot be ascertained through the data collected, it is possible that this paranoid social cognition (Zimbardo et al., 1981) could actually lead to self-fulfilling prophecies. The participants' distrust, suspicion, and overly personalistic construal of others' actions lead them to behave in ways that elicit negative behaviour from others and thus perpetuate their continued need for vigilance in social interactions (see examples of participant's open-ended responses in Appendix V).

The fact that some participants did not report concealing their sexual orientation at all during the diary study period warrants further discussion. There are several possible explanations for this. It is possible those participants were not being honest about their concealment experiences, or that those who did not conceal during the study were more "out" to begin with. It is also possible that they just engaged in more avoidance, thereby navigating away from social interactions in which they might feel compelled to conceal. Finally, it is possible that the sometimes concealers were faced with more concealment interactions than the non-concealers during the particular 30 days in which the diary study took place. That particular 30 days may not be fully representative of participant's lives. Each of these possibilities will be briefly explored.

As with all self-report inventories there is the possibility that participants are not responding honestly to all of the questions. It is possible that the participants who did not report concealing at all during the 30-day diary study felt pressured to be "out and proud" and failed to disclose instances in which they concealed. There is no definitive way to know whether participants are responding truthfully. However, given the recruitment strategy used to access the participants and the explicit inclusion criteria for the study (e.g., that they were not "out" in at

least one domain of their life), it seems unlikely that participants were being intentionally dishonest about their concealment experiences. These participants agreed to take part in a study for which they received no formal compensation and which required them to complete 10 diary entries over the course of a month. That presents a significant commitment that does not paint a picture of participants with a disregard for the study results.

It is possible that those participants who did not conceal during the 30-day diary study are more "out" than those who reported concealing at least once. The pretest measure of "outness" was merely a crude index of this degree of "outness" and although the degree to which participants were "out" varied significantly from 16% to 100%, overall levels of "outness" were quite high. There was no significant difference between the sometimes concealers and non-concealers in terms of the number of family, friends, or acquaintances they reported being "out" to, thus pretest levels of "outness" cannot account for the differences between non-concealers and sometimes concealers. Future research would be well served by utilizing a more comprehensive index of "outness." The need for the development of better instruments to measure concealment is echoed by Sedlovskaya et al. (2013) and Szymanski et al. (2008). The high levels of "outness" among participants in both studies may not reflect the average level of "outness" in the broader gay and lesbian community. Individuals who are concealing their sexual orientation in all or most domains of their life are unlikely to volunteer to take part in research studies related to their sexual orientation. Moreover, given the recruitment strategies utilized in both studies—snowball sampling and respondent-driven sampling—gay and lesbian individuals who are not "out" or who are not socially connected to other members of the community are unlikely to participate. This is a challenge inherent to the study of concealability and stigmatized populations and limits the generalizability of the results of the study.

A third possibility is that the non-concealers were relying heavily on avoidance as a method of concealment, selectively avoiding interacting with people from whom they feel they must conceal, thereby ameliorating the potential for concealment. They may not spend time with the grandparent or uncle, for example, from whom they are concealing. In essence, those who did not conceal in this study are likely to conceal at some point in their daily life, but this was not captured in the 30-day snapshot of the diary study. The sometimes concealers may either be less selective, or they may not have the luxury of choosing to avoid these interactions. They may work in jobs in which they feel that they must conceal, or they may have more regular interactions with family members to whom they have not disclosed. These are nuances that the study pretest measures are unfortunately unable to elucidate. The participants' open-ended responses offer a glimpse into their strategies of concealment, with the most common strategy being omission, or not correcting the heteronormative assumptions made by others. These open-ended responses will be discussed in more detail below.

A final possibility is that the sometimes concealers were merely faced with more situations in which they had to conceal during this particular 30 day snapshot of their lives. Future research would benefit from a longer-term approach, following gay and lesbian people over a period of a year, for example, to get a more representative sample of their day-to-day experiences with concealment. This is an important point to consider: that the lives of those with concealable stigmatized identities are not necessarily going to consistently involve concealment. Most participants reported being "out" in some domains of their lives and not in others.

It is important to consider the broader point here, and that is that many gay and lesbian people still feel the need to conceal their sexual orientation or to avoid certain people and places around which they feel that they will be forced to conceal. This speaks volumes about the "threat

in the air" (Steele, 1995, p. 617) that remains for many gay and lesbian people, even in a progressive, gay-positive country like Canada. Contrary to common thinking, the present research suggests that concealing one's sexual orientation, both in the short and longer-term, has negative emotional, psychological, and physical health consequences that are equal to or greater than, the negative consequences associated with being "out" and rejected. Feeling like one is unable to disclose a part of one's identity to others results in strained, potentially awkward and aversive social interactions with others. These kinds of social interactions are taxing and may leave gay and lesbian people who are concealing, in a state of depletion.

Footnotes

¹ Participants completed additional imagined interactions that were not directly relevant to the two hypotheses specifically tested in this thesis. These additional imagined interactions were conducted in order to enable later exploratory analyses but they were not discussed in this thesis. For example, some participants completed the Neutral imagined interaction, followed by the Out-and-Rejecting imagined interaction, and then an Out-and-Accepting imagined interaction. Exploratory analyses of the third imagined interactions may be conducted at a later date.

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Appendix A

Imagined Interaction Study Experimenter Script

Thanks so much for coming, please feel free to put your coat and bag anywhere you like.

As I mentioned in my emails, today I am going to ask you to complete a number of different tasks. Most of these tasks will be completed on these two computers here [points to computers]. I'm also going to ask you to vividly imagine yourself in three different social interactions and I will ask you to record yourself talking through that interaction in vivid detail. If you're ready, we can get started now.

Pre-test rinse: The first thing I'm going to ask you to do is take a sip of water, rinse your mouth with it and spit it back into the cup. You can toss the cups into the garbage can. This is just part of the preparation for taking a sample of your saliva in a few minutes.

Imagined Interaction (Neutral): Now let's get started on the first imagined interaction.

I would like you to imagine that you are at a store by yourself shopping for new electronics (maybe an iPod, DVD player) and a salesperson comes over to you. You aren't too sure what model is the best choice for you so you engage in conversation with this salesperson. I want you to describe the scene and the interaction for me as in as much detail as you possibly can, as if you were trying to recreate it for someone who wasn't there. For example, tell me about the store and the salesperson, tell me what you think the salesperson might say and what you might say back. Describe how you would feel during this interaction. Tell me about the things you are might think but might not say out loud.

Do you have any questions about what I am asking you to do?

I'll press the red record button and when I leave the room and close the door you can begin by stating your participant # and then start talking through this interaction, providing as much detail as possible. Please try to talk through it for at least a few minutes, enough that someone who wasn't there could imagine themselves in that situation. When you are done, please press the STOP button and open the door to the room to indicate that you are finished recording.

Saliva sample #1: Now I would like to take a sample of your saliva. Don't worry – I won't watch you while you do it. Please spit into this plastic vial. You don't have to fill the entire thing but try to fill at least the bottom of the vial. When you're done, just open the door and I'll come back in to seal it and place it in the freezer.

Facial affect #1: Now I'm going to ask you to complete a task on the computer. There are instructions on the first screen so please read them carefully before beginning. After the instructions is a practice trial to help you become accustomed to the task. Please note when the practice trial ends you are beginning the experimental trial and your responses will be recorded. When you reach Intermission 1 – please open the door to the room and I will direct you to the next task.

Digit-span #1: Now I'm going to ask you to switch computers and complete a memory task. Again, there are detailed instructions on the first screen so please read them carefully before you

begin. There is a practice trial to help you get accustomed to the task but after that the experiment begins and your responses will be recorded. When you reach the end of the task, please open the door and I will direct you to the next task.

Psychological and physical health measures #1: Now I would like you to complete a short series of questions about your feelings on this computer. When you are done we will move on to the next part of this experiment.

*End of Neutral Imagined Interaction Procedure

Imagined Interaction (OUT & ACCEPTING): Now I'm going to ask you to go through that same set of tasks but starting with a slightly different imagined interaction.

I would like you to imagine that you are talking to someone who knows about your sexual orientation and is accepting and supportive. I want you to describe the scene and the interaction in as much detail as you possibly can - as if you were trying to recreate it for someone who wasn't there. For example, tell me about where you and this person are (home, work, school, restaurant), what you are doing (eating, drinking coffee), what kinds of things would you and this person talk about (work, relationships, plans for the future)? Describe in detail how you imagine the interaction would go. Describe how you would feel during this interaction.

Just like last time I will press the red record button and when I leave the room and close the door you can begin by stating your participant # and then start talking through this interaction, providing as much detail as possible. Please try to talk through it for at least a few minutes, enough that someone who wasn't there could imagine themselves in that situation. When you are done, please press the STOP button and open the door to the room to indicate that you are finished recording.

Saliva sample #2: Now I would like to take a sample of your saliva. Don't worry – I won't watch you while you do it. Please spit into this plastic vial. You don't have to fill the entire thing but try to fill at least the bottom of the vial. When you're done, just open the door and I'll come back in to seal it and place it in the freezer.

Facial affect #2: Now I'm going to ask you to complete a task on the computer. There are instructions on the first screen so please read them carefully before beginning. There is no practice trial so as soon as you begin your responses will be recorded. When you reach Intermission 2 – please open the door to the room and I will direct you to the next task.

Digit-span #2: Now I'm going to ask you to switch computers and complete a memory task. Again, there are detailed instructions on the first screen so please read them carefully before you begin. There is no practice trial this time so once you begin your responses will be recorded. When you reach the end of the task, please open the door and I will direct you to the next task.

Psychological and physical health measures #2: Now I would like you to complete a short series of questions about your feelings on this computer. When you are done we will move on to the next round of this experiment.

*End of Out-and-Accepting Imagined Interaction procedure

Imagined interaction (CONCEALING): Finally, I'm going to ask you to go through that same set of tasks one last time and again starting with a slightly different imagined interaction.

I would like you to imagine that you are talking to someone to whom you have not disclosed your sexual orientation or whom does not know about your sexual orientation. I want you to describe the scene and the interaction in as much detail as you possibly can - as if you were trying to recreate it for someone who wasn't there. For example, tell me about where you and this person are (home, work, school, restaurant), what you are doing (eating, having coffee), what kinds of things would you and this person talk about (work, relationships, plans for the future)? Describe in detail how you imagine the interaction would go. Describe how you would feel during this interaction.

Just like the last time I'll press the red record button and when I leave the room and close the door you can begin by stating your participant # and then start talking through this interaction, providing as much detail as possible. Please try to talk through it for at least a few minutes, enough that someone who wasn't there could imagine themselves in that situation. When you are done, please press the STOP button and open the door to the room to indicate that you are finished recording.

Saliva sample #3: Now I would like to take a sample of your saliva. Don't worry – I won't watch you while you do it. Please spit into this plastic vial. You don't have to fill the entire thing but try to fill at least the bottom of the vial. When you're done, just open the door and I'll come back in to seal it and place it in the freezer.

Facial affect #3: Now I'm going to ask you to complete a task on the computer. There are instructions on the first screen so please read them carefully before beginning. There is no practice trial so as soon as you begin your responses will be recorded. When you reach Intermission 2 – please open the door to the room and I will direct you to the next task.

Digit-span #3: Now I'm going to ask you to switch computers and complete a memory task. Again, there are detailed instructions on the first screen so please read them carefully before you begin. There is no practice trial this time so once you begin your responses will be recorded. When you reach the end of the task, please open the door and I will direct you to the next task.

Psychological and physical health measures #3: Now I would like you to complete a short series of questions about your feelings on this computer. When you are done we will move on to the next round of this experiment.

OR

Imagined Interaction (OUT & REJECTING): Finally, I'm going to ask you to go through that same set of tasks one last time and again starting with a slightly different imagined interaction.

I would like you to imagine that you are talking to someone to whom you have disclosed your sexual orientation and who has responded with negativity or a lack of acceptance. I want you to describe the scene and the interaction in as much detail as you possibly can - as if you were trying to recreate it for someone who wasn't there. For example, tell me about where you and this person are (home, work, school, restaurant), what you are doing (eating, having coffee), what kinds of things would you and this person talk about (work, relationships, plans for the future)?

Describe in detail how you imagine the interaction would go. Describe how you would feel during this interaction.

Just like the last time I'll press the red record button and when I leave the room and close the door you can begin by stating your participant # and then start talking through this interaction, providing as much detail as possible. Please try to talk through it for at least a few minutes, enough that someone who wasn't there could imagine themselves in that situation. When you are done, please press the STOP button and open the door to the room to indicate that you are finished recording.

Saliva sample #3: Now I would like to take a sample of your saliva. Don't worry – I won't watch you while you do it. Please spit into this plastic vial. You don't have to fill the entire thing but try to fill at least the bottom of the vial. When you're done, just open the door and I'll come back in to seal it and place it in the freezer.

Facial affect #3: Now I'm going to ask you to complete a task on the computer. There are instructions on the first screen so please read them carefully before beginning. There is no practice trial so as soon as you begin your responses will be recorded. When you reach Intermission 2 – please open the door to the room and I will direct you to the next task.

Digit-span #3: Now I'm going to ask you to switch computers and complete a memory task. Again, there are detailed instructions on the first screen so please read them carefully before you begin. There is no practice trial this time so once you begin your responses will be recorded. When you reach the end of the task, please open the door and I will direct you to the next task.

Psychological and physical health measures #3: Now I would like you to complete a short series of questions about your feelings on this computer. This is the last set of questions for this study.

Appendix B

Imagined Interaction Audio Recording Transcription Samples**Neutral Imagined Interactions**

"So I walk into Future Shop, it's the first place I'm looking for a cell phone. Go over to the little kiosk, there's a younger guy there. He looks pretty clean-cut. He sort of seems like he doesn't really, I don't know, know his stuff. He's kind of cocky, gel in his hair, preppy, but you know he's got the cheesy sales pitch persona. and so, ah, anyways yeah, I'm looking at all the models and he kind of asks what kind of phone I'm looking for and I explain I'm looking for something with not a lot of uh, I guess I'm not knowledgeable about the cell phones so I pretty much kind of need all of the information. So I guess as I start learning more and more I'll narrow it down as to what I want. And yeah, it goes from there, okay."

"I went to Visions electronics to look at a DVD player. I needed a new one and so I was shopping around and browsing, and the male sales associate came over and asked me if I needed any help with anything and I said, "Yes I would like a new DVD player but I'm not sure what brand I would want or what the features I'm looking for, so what are the difference between these three." And so he explains the differences in each type of DVD player and yeah (laughs)."

"Okay, so I'm walking into Best Buy to look at a new TV screen for the basement. I walk in and I start looking at the TV's. I look at all them, the small ones, the big ones, sort of looking at them and wondering which one I want. I had a Panasonic but I lost it in the divorce. So, do I want another plasma or do I want an LCD. Sorta [sic]deciding. Salesman walks up, it's a guy. Asks if he can help me. I say "Sure, looking for a TV for my basement," what would he suggest. He asks how big and I said I'd like 50, and he says okay, he said...he takes me over to, uh, I don't know, Sanyo - Samsung, plasma. I said well would I want a plasma or an LCD for that space, knowing that a dark room plasma is probably better. Umm, testing sort of his knowledge. He tells me that plasma is a good idea, takes me to the Samsung. I tell him I had a Panasonic and I was really quite happy with it. He says Samsung is just as good -, probably the best on the market, it's on sale, and, uh, we could go with the Panasonic, there's nothing wrong with it, it's good, it's more expensive. Umm, I ask him if he gets commission. He says no, and umm, we look at the TV's. He shows me some of the features of the Samsung. I decide I'm gonna [sic] get it. We go to purchase it. He tries to sell me an extended warranty, which I decline. He tries to sell it for ten minutes. I still decline. I pay for the TV and then I take it home."

"The salesperson would come to me [sic] and says, "Hi, can I help you?," and I would say, "Well, I'm looking for a computer. I don't really want to have to buy it. I'm doing some research. I'm really not interested in purchasing a second computer, but I need it for the program I'm using." They would say, "Alright, well what kind of computer are you looking for?" I'm looking for... it has to be a PC. I want it to be something light, something easy to use. I'm definitely a Mac person. I'm not big on PC. They would start showing me things and then I would interrupt and say, "And as cheap as possible, but not crappy, because it's some important research that I'm doing. And I'm obviously not thrilled about having to buy this. I don't have funding for it. It's out of a student loan so if you could help me find the cheapest, best thing possible, that would be fantastic."

Out-and-Accepting Imagined Interaction

"So the person who I think would be closest to me now would be my roommate and best friend James. A typical interaction would be.. I come home from school. He comes home from work/school. We meet up in the living room. It's pretty relaxed. Usually he'll be sitting in one chair, I'll be sitting in another. We tend to talk about our days really openly. There's like zero tension. We can be incredibly open with one another. So ah...the mood is usually like pretty playful, ah, very little umm, worries. I don't usually worry about anything when I'm talking to him. An average day I come home and talk about what we did during the day. Umm, he tends to talk about boys. I tend to talk about girls [laughter]. He usually sits by the window and smokes and drinks. I'll have a drink too, with him. Umm...we'll maybe discuss anything else that's going on in our lives. There's like, yeah, zero tension. It's probably one of the most laid back..like situations in my life as a whole where I can just go home and not worry about being judged in a conversation with him.""

"Okay, so I'm thinking of my friend _____, who I just hung out with this morning. She's very affirming of everything I am and do. We have a really good friendship. We, common attraction Umm, we often just either wander or sit and talk. We take turns talking about our lives and what's going on. We get really deep, ah, into what's happening. She knows everything that's going on in my life. I often ask her for advice and some wisdom. She asks me for the same for her life. Umm... so we often get together and we spend some time updating each other on what's going on, because we're both so busy that we don't often get to talk very much. Like once a week, maybe. We both hate the phone, so we don't talk on the phone, ever but always get together physically. We always share food. And umm, it's very gentle. It's very loving and supportive friendship. The emotional tone is really supportive, and open, and generous...relaxed. Very attentive to what the other person might need for the day. Listen -- we both listen a lot to each other. So it's a really good space to do that. So, that's what I'm thinking of."

"Okay so someone that knows that I am gay is my best friend _____, who is not gay. He's one of my best friends. I have one best friend that's gay and one that's not. _____ I've known since I was 15 or 16 and he was the first person that I came out to when I was 18. Actually, I think I just talked a lot about gay things and he basically was like, "You're gay, just say it," and I didn't want to say it. He pretty much told me it was okay, in a way that he was like, it's so silly for you to not just be out, there's no reason to hide who you are. So he pretty much basically just forced it out of me. We talk about politics and just school, and sociology type things and of course, gay issues come into that. For a straight guy he knows a lot about being gay because we talk about it a lot and I think he has a clearer picture than most straight people about what it feels like to be gay because we talk about it so much. He's always up for talking about it. He just likes to talk about things and understand people and different people and understand differences. So I think he's fascinated by it. It's really nice to have him to talk to. Although I wouldn't... I guess we do talk about emotional things. It's just like, if we were to talk about something really emotional, it would go from emotion to joke like right after. It just has that up and down. So it's nice, it keeps things light but also you get to vent I get to vent. I would probably be a lot worse off if I didn't have him to talk to, emotionally."

"Okay, umm, normal interaction we talk about everything, TV we like, movies we like, stuff going on in the world, politics, school. We talk what we did in the day, what our plans are for the future, relationships a little bit, not very much. I don't talk about that with many people. We talk

about what we're excited about, funny stories, why I'm having a shitty day. Pretty much everything and anything, honestly. When someone accepts you with no strings attached, you feel like you can be the most honest with that person and you can talk about anything and so I do, I talk about everything with them. I feel comfortable doing it."

"This is a scenario with a good friend of mine who was kind of acting in a listener, counseling kind of role. He's a little bit older than me. He has a wife and kids. Although I talked with him several times, just making small talk at Tim Horton's where we usually ran into each other, which is where I got to know him. We talk about the weather and the news, just normal, everyday small talk topics - nothing very deep or meaningful or personal. Then one day we were chatting, I found out that he does some kind of counseling work and I started telling him about my own issues and problems and, things like struggling with depression over the years and being gay - my sexuality. To my pleasant surprise, his reaction was very warm and supportive and friendly. It didn't change negatively at all, and in fact I think it created... my disclosure created a stronger bond of friendship, because I had taken that risk of disclosing something to him and opening myself up some more, and he reciprocated - he did the same. He told me more things about his life and his past, and I was supportive and not judgmental and didn't run away screaming and neither did he. It was a really nice example of feeling accepted, and respected, and treated no differently than anyone else. Treated with respect and recognition and feeling like an equal. I wasn't any better or any worse than anyone else. It was a very good, positive, teaching moment for me to learn that, you know, taking the risk of opening and disclosing can have very positive results."

Out-and-Rejecting Imagined Interaction

"This interaction would be probably with my grandfather, umm....who I guess in subsequent interactions after coming out to him has been incredibly awkward around any conversation in regards to my sexuality. So a typical conversation might be, I go there, umm, he tends to not address the issue or the person that I'm dating currently....However I know that he's not comfortable with, however it but I tend to bring up my current life situation and the time that I do spend with this person,...it does get incredibly awkward. I know this but I'm willing to do that in hopes that one day he will be comfortable with it. He doesn't tend to ask any questions and [sic] tends to avoid eye contact with me and doesn't ask any further questions even if it's just something that is not really that detailed that I'm telling him. So say he asks me what I'm doing later, I will - if I'm spending time with the person that I'm dating - I will say that I'm going to go grocery shopping. However, he will not go into any further detail in regards to that and then it usually gets really uncomfortable and he will usually change the subject. I usually get really awkward because I know that he's not comfortable with it but hope that is for greater good that I continue to share my life with my grandfather who is really actually quite close to me in the context of my life."

"So the person who doesn't quite respond super favourably toward my sexual orientation is my nana - my mom's mom. She's 86. She comes over to my family's place for family dinners about once a week. I usually bring _____, my partner, and Nana tolerates it but she still makes comments about me finding a boyfriend or asking [sic] about my old boyfriends from over 10 years ago. My mom tries to kind of get her to be on her best behaviour, but once in a while a comment slips up that she's, you know, not really in favour of this. She often calls _____ my friend. She never refers to us as partners. Ah, and she doesn't really want to treat us equally to

like my brother's and their partners or spouses. So I guess the....you know... but then when it's just myself and nana one-on-one, she's pretty good. She doesn't really talk about relationships. We sort of just avoid that topic. Every other topic seems pleasant so she's getting there. She has come a long way since [sic] a couple of years ago from when she thought _____ was feeding me drugs to make me gay [laughter]. Ah, that was pretty hurtful to both of us, especially _____."

"A person who wasn't very crazy about my sexual orientation. A typical conversation doesn't really disclose much, honestly. We don't really talk about anything. Before I told them about my.... about being gay, we talked about a lot of stuff, and then after, nothing really. I would like to talk to them about all kinds of stuff but they aren't crazy about [sic] being gay so they don't want to talk about that, and choose to sort of ignore everything else about me, and so I choose to ignore everything else too. I'm not going to force anyone to talk about anything. So it's really their loss because I find myself talking to other people instead. And so...I feel that being gay is a very big part of my life. It doesn't always have to be at the forefront of everything, but it's always there underlying sort of everything about who I am right now. I kind of feel like if I ignore that then I am ignoring everything else. So it's not fair to only choose certain things to talk about when you used to be able to talk about everything with this person. And so I feel that I'm not going to talk to them about anything. When we do talk it's very basic things, very sort of, small talk, and we just don't really go under the surface. That's probably how it's going to be with this person forever, because they're not going to change their opinion on being gay any time soon. I'm not going to change my opinion on the idea that they don't get to pick and choose what we talk about."

"I'm 20 years old and I'm trying to interact with my mother who was not a very loving or touchy-feely type of person. And I was.... and needed her approval—probably wanted some approval or whatever—and when that wasn't forthcoming, then it was just a write-off. So, typical things that we would talk about like a boyfriend at the time, it would be, "If you have another boyfriend, I'm never going to talk to you again." It was always something negative. It was never a positive thing, like I could never tell my mother that I loved her because she would see that as a weakness; she would say, "If you love me, then you would do this. You would obey me.""

Concealing Imagined Interactions

"There's a little bit of an elephant under the table [sic] when we talk about whether or not I have a girlfriend and ah...like I was talking about ____ earlier and we're going to Europe and my grandma was like, "Are you two going to be sleeping together on this trip? What's the room situation going to be like?" It was kind of awkward because we are going to be sharing a room, right. But it's not like we're going to be *sharing* a room in the sense that she thought we would be sharing a room. It's like, we would be sharing a room in the sense that anyone would share a room. We sleep together as it is now when there are not enough beds. It's not really a big deal at all. That's kind of awkward to maneuver around that. Well yeah, and I don't really want to bring anything up with older people because it's hard enough to convince them to talk to people wearing turbans. It's another thing to try and talk to them about you being different from what they perceive to be the norm."

"So my parents don't know, specifically, my sexual orientation -that I am a lesbian, or gay, or whatever. I don't really care about the label. Sometimes... I think that my mom has been told,

like by my brother. She can just probably can tell based on the way that I dress, or the way that I speak, or the way that I am. Maybe she's seen me looking at girls, I don't know, but umm, she's known me for 22 years, so she's probably picked up on it at different parts of my life. She might try and get it out of me by asking me if I have a boyfriend. She does that a lot. Or [sic] talks about me needing to graduate so that I can get married or just stuff like that that is pretty obviously to annoy me, or to get me to say it. Because she comes off as sounding pretty traditional, and maybe she is, but I think that if she was that traditional she probably would have kicked me out by now, because she must be able to tell. I think that she mostly gets upset and tries to get me to tell her when she hears something homophobic at work or when somebody says something at work. That's when she seems to get most concerned about it. It seems like she's most concerned about me having to have issues when I'm just... being out. I don't think she's personally that bothered by it. So yeah, it makes me feel ashamed a lot of the time, like I'm having a secret. I guess I should be able to talk about people that I like. Like a lot of people that I know growing up like to talk to their parents about people that they like. I've never really had that opportunity. So that makes me feel sort of that our relationship is strained because of that, because we don't talk about a big part of my life. I guess I just don't know what it would feel like to be able to talk about that kind of stuff."

"So one of the people who doesn't know about my sexual orientation are my parents, and I guess I'm going to choose specifically, my mother. Although I feel like she might know deep-down, I have never come out to her, and we never discuss things. It's quite a taboo subject as she is strictly catholic and a firm believer in all the traditional senses of the religion. When we do interact it is extremely short and I am extremely sensitive and irritable from everything she says. She's the same way, so I guess when we do talk it's out of necessity, never for pleasure. She asks me what I want for dinner. She tells me that dinner is ready. She tells me that she is not going to work tomorrow so I can use the car. She tells me that she's going to bed now. I almost never interact with her by my own choice. I usually...she takes initiative and speaks to me first, or asks me a question. Maybe she asks me about school. Whenever she's inquiring about anything about my life it's usually about school or about work. So she asks me how school's going and if my grades are good, and how work is going and if I work too hard, if I'm tired. However, there are highs and lows of our relationship. Sometimes I don't mind having conversations with her but the majority of the time I would rather not. I have had this kind of relationship with her since I was a little kid, so before I even knew I was gay. I don't think it has anything to do with that. So she doesn't know, so, I mean we don't talk about relationships. Even if I were straight we wouldn't be talking me being in a relationship with a boy, or having a boyfriend, or having crushes. My family is extremely prudish and the whole idea of dating and premarital sex and like, falling in love, is extremely foreign to them. They wouldn't accept it, so my interaction with her is really minimal and most of the time non-enjoyable."

"So, the person I chose is my mom. She doesn't know about my sexual orientation. We don't talk about relationships. I never ask her for advice about relationships. Whenever she asks me if there is [sic] any cute boys and stuff I just say I'm not interested and she gets kind of sad. But on a daily basis we talk about... usually when I come back from school she asks me how was my school. I say, "It was good." I might share my marks with her if I get good marks, then I'll tell her what marks I got. She'll ask me after my dance class, "How was my dance class?" And I'll say, "It was good." We don't talk about both—personal stuff I guess. We mostly talk about stuff that we do on a daily basis such as school work, stuff like that."

Appendix C

Imagined Interaction Study Consent Form

Research Project Title: Imagined Interactions Study

Researcher(s): Kathleen Fortune, PhD Student

Sponsor (if applicable): Dr. Gerry Sande, Professor of Psychology

This consent form, a copy of which will be left with you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The purpose of our research is to learn more about people mentally prepare for or rehearse future social interactions. For example, if you have an upcoming job interview you might anticipate how the interview might go, imagine what the interviewer might say and what you might say in response. Broadly speaking we are interested in how people go about mentally preparing for social interactions with various people in their lives. You will be asked to complete a series of short questions today and then we will schedule an appointment to come back into the laboratory to take part in a mental rehearsal task. At that time you will be asked to complete a series of short measures, some of which are done on paper and some on the computer, and then engage in a verbal rehearsal of two randomly selected imagined social interaction scenarios.

We know that you might worry that your responses will not be entirely confidential. We ensure the confidentiality of your responses in two key ways. First, we do not ask you to provide your name or any other identifying information while completing the questionnaire here today nor will we ask for it when you complete the rest of the study online. Second, you will be assigned a participant code so that each time you login you will be asked to enter that unique code. That code will be kept separate from any identifying information you provided in order to take part in the study and in will not be linked to your responses at any point. This consent form that I will ask you to sign today will be stored separately from the data file. Your responses are entirely anonymous. Once collected from the online survey website, the data will be stored on a computer in a securely locked room (P506H Duff Roblin Building), to which only the experimenter and her supervisor have access.

In exchange for your participation today and in the appointment we schedule for the next few weeks you will be entered into a draw to win one of 5 great prizes (iPod Nano, Silver City movie tickets, Polo Park Gift Cards). A summary report of the findings and a more detailed description of this study will be available to you via e-mail at the address you provide here

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the

study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so you should feel free to ask for clarification or new information throughout your participation.

This study has been approved by the Psychology/Sociology Research Ethics Board (PSREB), and any concerns and complaints regarding this procedures you may contact PhD Student Kathleen Fortune [email removed] or Dr. Gerry Sande (474-9626) or [email removed] . Alternatively, you may contact the Human Ethics Secretariat (474-7122), or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Participant's Signature Date

Researcher and/or Delegate's Signature Date

Appendix D

Imagined Interaction Study Debriefing Form

Thank you for taking part in this study. I sincerely appreciate your commitment to this study and your willingness to share your experiences with us. Now I want to take the opportunity to tell you a bit more about this research and explain why we think it has important implications for you and other gay and lesbian people.

Despite legal progress with respect to rights for gay and lesbian people in Canada, research continues to show that many gay and lesbian people still conceal their sexual orientation. They conceal out of fear of losing important loved ones, fear of being negatively stereotyped or being discriminated against in the work or educational setting, and even fear of physical violence. Similarly, research has already shown that keeping a secret is hard and is associated with a lot of anxiety, concerns about giving off clues or revealing the secret, and paranoia about what other people know. However, keeping a secret about something fun like a birthday party is a very different experience than keeping a secret about your sexual orientation. The fear and anxiety are likely to be heightened because the consequences of disclosure are so much greater.

I told you that the purpose of this study was to examine how people mentally prepare or rehearse future interactions. This is true; in fact research suggests that vividly imagining and rehearsing future social interactions can elicit the same thoughts and feelings as the actual interaction. What I didn't tell you was that I am specifically interested in how gay and lesbian people mentally rehearse future social interactions with people to whom they have not disclosed their sexual orientation and from whom they anticipate a negative reaction. I apologize for deceiving you but it was important that you did not know the hypotheses behind this research. I did not want this information to influence the way that you engaged in the imagined interaction task, nor your responses on the other tasks.

These tasks were intended to test my hypothesis that an imagined interaction with someone you are not out to would be more cognitively, emotionally, psychologically, and physically depleting than an imagined interaction with someone to whom you have disclosed. If my hypothesis is true then this has important implications for gay and lesbian people who engage in this kind of anticipatory rehearsal on a regular basis in order to conceal their sexual orientation. These people may have less left in the tank, so to speak, to deal with all the other demands in your life.

It is sometimes difficult to answer these types of questions and your willingness to participate in this study is greatly appreciated. Your input will contribute to our understanding of the ongoing burden faced by gay and lesbian people. If answering any of these questions made you feel distressed and you would like to speak to someone, please contact one of the following:

Rainbow Resource Centre: (204)-452-7508 OR Klinik: (204)-784-4090

Once again thank you for taking the time to contribute to this research. I'll be in touch via email with a summary of results.

Appendix E

Awareness of Sexual Orientation Questions

Indicate whether or not the following people in your life are aware of your sexual orientation.

Y = Yes, N = No, NS = Not sure, NA = Not applicable

1. Your mother	Y/ N/ NS/ NA
2. Your father	Y/ N/ NS/ NA
3. Your brother(s)	Y/ N/ NS/ NA
4. Your sister(s)	Y/ N/ NS/ NA
5. Your grandparents	Y/ N/ NS/ NA
6. Your cousins	Y/ N/ NS/ NA
7. Your close friends	Y/ N/ NS/ NA
8. Your classmates or coworkers	Y/ N/ NS/ NA
9. Your boss (manager, teacher)	Y/ N/ NS/ NA
10. Your casual friends or acquaintances	Y/ N/ NS/ NA
11. Your friends or acquaintances on the internet	Y/ N/ NS/ NA
12. Your doctor	Y/ N/ NS/ NA
13. Your landlord	Y/ N/ NS/ NA

Perceived Consequences of Disclosure/Being Outed

Please indicate how important to you it would be if each of the following people in your life were to find out about your sexual orientation. Please choose Not applicable for those people on the list that already know about your sexual orientation.

0	3	7	NA
Not at all important	Neutral	Extremely Important	Not Applicable
1. Your mother			
2. Your father			
3. Your brother(s)			
4. Your sister(s)			
5. Your grandparents			
6. Your cousins			
7. Your close friends			
8. Your classmates or coworkers			
9. Your boss (manager, teacher)			
10. Your casual friends or acquaintances			
11. Your friends or acquaintances on the internet			
12. Your doctor			
13. Your landlord			

Appendix F

Centrality of Sexual Orientation

Please answer the following questions using the scale provided below.

1 = Strongly disagree

2 = Disagree

3 = Neither agree nor disagree

4 = Agree

5 = Strongly agree

1. My sexual orientation is an important part of how I define who I am.
2. I feel strongly about my connection with other people who share my sexual orientation.
3. My sexual orientation has little to do with how I feel about myself as a person.
4. My sexual orientation is very important to my social relationships.
5. If I was asked to describe myself to others, my sexual orientation is not one of the first things that would come to mind.

Appendix G

Salience of Sexual Orientation

Please answer the following questions using the scale provided below.

1 = Strongly disagree

2 = Disagree

3 = Neither agree nor disagree

4 = Agree

5 = Strongly agree

1. On a day-to-day basis I don't give much thought to my sexual orientation.
2. When I spend time with members of my family (parents, siblings), I think about my sexual orientation more.
3. Once I start thinking about my sexual orientation I find that I cannot think about anything else.
4. Thoughts about my sexual orientation often come to mind when I'm trying to focus on something else.
5. When I'm the only gay or lesbian person in a room I find myself thinking about my own sexual orientation more than I usually do.

Appendix H

Perceived Discrimination Scale

(Reprinted from Williams, D., Yu, Y., Jackson, J., & Anderson, N. (1997). Racial differences in physical and mental health. *Journal of Health Psychology*, 2(3), 335-351, used with permission)

If people knew about your sexual orientation, how likely do you think it is that the following would occur?

1 – Not at all likely

2 – Unlikely

3 – Somewhat unlikely

4 – Neutral

5 – Somewhat likely

6 – Likely

7 – Very likely

1. People would act as if you are inferior.

2. People would act as if you are not as smart.

3. People would act as if they are afraid of you.

4. You would be treated with less courtesy than others.

5. You would be treated with less respect than others.

6. You would receive poorer services in stores and restaurants

7. People would act as if you are dishonest

8. You would be called names or insulted

9. You would be threatened or harassed

Appendix I

Everyday Experiences with Discrimination Scale

(Reprinted from, Williams, D., Yu, Y., Jackson, J., & Anderson, N. (1997). Racial differences in physical and mental health. *Journal of Health Psychology*, 2(3), 335-351, used with permission)

Using the scale below, please indicate how often any of the following things have happened to you in your day-to-day life *because of your sexual orientation*.

1 – Not at all likely

2 – Unlikely

3 – Somewhat unlikely

4 – Neutral

5 – Somewhat likely

6 – Likely

7 – Very likely

1. People acted as if you are inferior.
2. People acted as if you are not as smart.
3. People acted as if they are afraid of you.
4. You were treated with less courtesy than others.
5. You were treated with less respect than others.
6. You received poorer services in stores and restaurants
7. People acted as if you are dishonest
8. You were called names or insulted
9. You were threatened or harassed

Appendix J

Multidimensional Scale of Perceived Social Support

(Reprinted from Zimet, G.D., Dahlem, N.W., Zimet, S.G. & Farley, G.K. (1988). The Multidimensional Scale of Perceived Social Support. *Journal of Personality Assessment*, 52, 30-41, used with permission)

Read each statement carefully and indicated how you feel about each statement using the scale provided below.

1 = Very strongly disagree

2 = Strongly disagree

3 = Mildly disagree

4 = Neutral

5 = Mildly agree

6 = Strongly agree

7 = Very strongly agree

1. There is a special person who is around when I am in need.
2. There is a special person with whom I can share my joys and sorrows.
3. My family really tries to help me.
4. I get the emotional help and support I need from my family.
5. I have a special person who is a real source of comfort to me.
6. My friends really try to help me.
7. I can count on my friends when things go wrong.
8. I can talk about my problems with my family.
9. I have friends with whom I can share my joys and sorrows.
10. There is a special person in my life who cares about my feelings.
11. My family is willing to help me make decisions.
12. I can talk about my problems with my friends.

*Family subscale = Items 3, 4, 8, 11; Friends subscale = items 6, 7, 9, 12; Significant other subscale = items 1, 2, 5, 10

Appendix K

Rosenberg Self-Esteem Scale

(Reprinted from Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton Press, used with permission)

How do you feel generally?

Think about each statement that follows and rate the degree to which you agree or disagree with it on the following scale.

1	3	5	7	9
very	moderately	neutral	moderately	very
strongly	disagree		agree	strongly
disagree				agree

1. I feel that I am a person of worth, at least on an equal basis with others.
2. I feel that I have a number of good qualities.
3. All in all I am inclined to feel that I am a failure.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I take a positive attitude toward myself.
7. On the whole I am satisfied with myself.
8. I wish I could have more respect for myself.
9. I certainly feel useless at times.
10. At times, I think I am no good at all.

Appendix L

Paranoid Social Cognition

Please read each item and indicate your level of agreement using the following scale.

1 = Strongly disagree to 5 = Strongly agree

1. I do not believe that my sexual orientation is obvious to others.
2. I find myself distracted from other things that I am doing because of thoughts about my sexual orientation.
3. When interacting with some people, I am not worried that I might accidentally reveal some clues as to my sexual orientation.
4. I am watchful for signs that others might hold negative attitudes about my sexual orientation
5. I often find myself trying to push thought about my sexual orientation out of my mind.
6. I sometimes think that I give off signs or cues as to my sexual orientation.

Appendix M

Sample Items from the Positive and Negative Affect Schedule (PANAS)

*The complete PANAS can be obtained using the following citation:

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070. doi:10.1037/0022-3514.54.6.1063

Appendix N

Sample Items from State Trait Anxiety Subscale of the State-Trait Anxiety Inventory

(Sample items reprinted from, Spielberger, C. C., Gorsuch, R. L., & Lushene, R. (1970). *State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press, Copyright (2015), used with permission from MindGarden.com)

A number of statements which people have used to describe themselves are provided below. Read each statement and then using the scale below, select the appropriate number to indicate how you feel right now, that is, in this moment

1	2	3	4
Not at all	Somewhat	Moderately so	Very Much So

3. I am tense.

9. I feel anxious.

10. I feel comfortable.

Appendix O

Examples of the Modified Reading Span Task

(Reprinted from Schmader, T., & Johns, M. (2003). Converging evidence that stereotype threat reduces working memory capacity. *Journal of Personality and Social Psychology*, 85(3), 440-452, used with permission from Dr. Schmader).

Please read the following sentences and then indicate the number of vowels in that sentence as quickly as possible. At the end of each sentence, you will be given a word to remember for later.

Set 1

They celebrated by dancing wildly.

How many vowels are in that sentence?

Please remember the word green.

The meeting was delayed again.

How many vowels are in this sentence?

Please remember the word fact.

Don't give the fish too much blood.

How many vowels are in this sentence?

Please remember the word dress.

She likes to sing in the shower.

How many vowels are in this sentence?

Please remember the word heat.

What were the 4 words you were asked you to remember?

Appendix P

Montreal Set of Facial Displays of Emotion

(Reprinted from Beaupré, M., & Hess, U. (2005). Cross-cultural emotion recognition among canadian ethnic groups. *Journal of Cross-Cultural Psychology*, 36(3), 355-370, used with permission from Dr. Hess)

A sample of four of the emotional expressions included in the Montreal Set of Facial Displays of Emotion.



Appendix Q

Subset of items from the Cohen-Hoberman Inventory of Physical Symptoms

(Reprinted from Cohen, S., & Hoberman, H. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13, 99-125. *Journal of Applied Social Psychology*, 13, 99-125, used with permission)

Select the number for each statement that best describes how much that problem is bothering you right now.

At one extreme, 0 means that you are not at all bothered by the problem.

At the other extreme, 7 means that you are very much bothered by the problem.

How much are you bothered by:

1. Faintness
2. Heart pounding or racing
3. Feeling flushed/sweaty.
4. Muscle tension or soreness
5. Upset stomach/indigestion
6. Rapid or shallow breathing
7. Headache

Appendix R

Online Diary Study Respondent-Driven Sampling Recruitment Coupon



EXAMINING THE PERCEPTIONS & EXPERIENCES OF GAY AND LESBIAN MANITOBANS

KATHLEEN FORTUNE, PH.D. CANDIDATE

DR. GERRY SANDE, ASSOCIATE PROFESSOR

DEPARTMENT OF PSYCHOLOGY

UNIVERSITY OF MANITOBA

IN EXCHANGE FOR PARTICIPATING YOU WILL BE ENTERED INTO A PRIZE DRAW WHICH INCLUDES (ONE 16GB IPOD NANO, 2 \$50 POLO PARK GIFT CARDS, 2 \$50 SILVER CITY MOVIE THEATRE GIFT CARDS)!

FOR EACH ADDITIONAL PERSON YOU RECRUIT YOU WILL RECEIVE AN ADDITIONAL ENTRY INTO THE DRAW (MAX OF 4 ENTRIES).

IF YOU WOULD LIKE TO LEARN MORE ABOUT PARTICIPATING, PLEASE EMAIL KATHLEEN FORTUNE AT [email removed] AND INCLUDE THE CODE # BELOW IN THE EMAIL SUBJECT LINE.

CODE #:

Appendix S

Online Diary Study Informed Consent Form

Research Project Title: Media Portrayal of Gay and Lesbian people

Researcher(s): Kathleen Fortune, PhD Student

Sponsor (if applicable): Dr. Gerry Sande, Associate Professor of Psychology

This consent form, a copy of which will be emailed to you for your records and reference, is only part of the process of informed consent. It should give you the basic idea of what the research is about and what your participation will involve. If you would like more detail about something mentioned here, you should feel free to ask.

The purpose of our research is to learn more about your perceptions of how gay and lesbian people are portrayed in the media. We want to know about the positive and negative depictions you see in the media on a regular basis. You will be asked to complete a brief series of questions today and then you will be asked to provide an e-mail address that you check regularly. I will contact you at that email address every 3 days to ask you to login to an online survey to complete a series of questions on your perceptions and experiences.

I know that you worry that your responses will not be entirely confidential. We ensure the confidentiality of your responses in two key ways. First, we do not ask you to provide any identifying information aside from your signature on this consent form. Instead, you will be assigned a participant code so that each time you login you will be asked to enter that unique code. That code will be kept separate from this consent form. The data collected on the survey website will be stored on a computer in a secure laboratory.

In exchange for your participation you will be entered into a draw to win 1 of 10 great prizes (e.g., iPod nano, gift certificates to Polo Park and Silver City theatres). By the end of August 2011 a summary report of the findings and a more detailed description of this study will be available to you via e-mail at the address you provide here: _____.

Your signature on this form indicates that you have understood to your satisfaction the information regarding participation in the research project and agree to participate as a subject. In no way does this waive your legal rights nor release the researchers, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from the study at any time, and /or refrain from answering any questions you prefer to omit, without prejudice or consequence. Your continued participation should be as informed as your initial consent, so feel free to ask for clarification or new information throughout your participation.

This study has been approved by the Psychology/Sociology Research Ethics Board (PSREB), and any concerns and complaints regarding this procedures you may contact PhD Student Kathleen Fortune [email removed] or Dr. Gerry Sande (474-9626) or [email removed]. Alternatively, you may contact the Human Ethics Secretariat (474-7122), or e-mail margaret_bowman@umanitoba.ca. A copy of this consent form has been given to you to keep for your records and reference.

Participant's Signature Date

Researcher and/or Delegate's Signature Date

Appendix T

Online Diary Study Debriefing Form

Thank-you for taking part in our study. We sincerely appreciate your commitment to this study and your willingness to share your experiences with us. Now we want to take the opportunity to tell you a bit more about this research and explain why we think it has important implications for you and other gay and lesbian people.

Despite significant legal progress with respect to rights for gay and lesbian people in Canada, research continues to show that many gay and lesbian people conceal their sexual orientation. They conceal for a number of different reasons, including fear of losing important loved ones, fear of being negatively stereotyped or discriminated against in the workplace or educational setting, and even fear of physical violence. A significant amount of research has already shown that keeping a secret, any secret, is hard. It is associated with increased anxiety, concerns about slipping up and revealing the secret, paranoia about what other people know, as well as various interaction strategies aimed at keeping the secret. With that said, we know that keeping a secret about something positive like a birthday party or a Christmas gift is a very different experience from keeping a secret about an aspect of your identity such as your sexual orientation. The fears are heightened because the consequences of disclosure are so much greater. The effort required to maintain this secret from others can be mentally and physically exhausting.

The purpose of this research is to examine exactly how concealing one's sexual orientation might impact other aspects of one's daily life. We asked you to tell us about your relationships with others, your perceived level of social support, to whom you have disclosed and from whom you conceal, your experiences with prejudice and discrimination, as well as some measures of your mood and psychological well-being. Finally, we asked you to tell us a bit about your health in terms of symptoms you experienced and in terms of the kinds of adaptive or maladaptive behaviours you regularly engage in (such as smoking, drinking, your diet, sleep habits). We also asked you to complete a couple of questionnaires that measured emotional burnout and mental and physical fatigue.

All of these questions were designed to help test our hypothesis that greater concealment will be associated with various types of depletion – essentially, concealing your sexual orientation leaves you with less in the tank to deal with all the other aspects of your daily life. For example, you might underperform on cognitive tasks required of you for your job, you might feel less able or interested in dealing with the emotions of your friends, family, or romantic partner. You may feel less equipped to choose the salad over the Big Mac, to resist that cigarette or alcoholic drink, or to get up on a cold winter morning and exercise. These activities are just examples of the many everyday tasks we have to perform that tap into our limited self-control resources. We hypothesize that feeling that one has to conceal their sexual orientation represents an additional layer of stress which may significantly contribute to failures of self-control and in turn, may negatively impact the psychological and physical health of gay and lesbian people.

The reason we had you answer the same set of questions every three days for one month was so that we could track whether days in which you concealed were associated with subsequent depletion. We also wanted to evaluate the cumulative effects of concealing over a longer period

of time because for many gay and lesbian people – concealment is an everyday, long-term challenge.

As stated earlier, your responses to all of the questionnaires will be absolutely confidential. Your name will be converted to a code number, and only people who are associated with this research will see your name or your responses. In return, we want you to honour our confidentiality -- please do not tell anyone about the details of this study. If the other students know about the study before they participate, their data will be biased and thus cannot be included.

Your participation in this study is greatly appreciated. If you are interested in obtaining a copy of the results once the study is complete, you may contact the primary researcher, Kathleen Fortune at [email removed].

If you have any complaints, concerns, or questions about this research, please feel free to contact the Human Ethics Secretariat (474-7122), or e-mail margaret_bowman@umanitoba.ca.

Thank you very much for your participation.

Appendix U

Diary Study Media and Concealment Questions

In the past 3 days, how many times were you exposed to information in the media that you think portrayed gay and lesbian people positively or increased public acceptance of gay and lesbian people?

Please enter a whole number _____

Please describe those instances.

In the past 3 days, how many did you observe instances of homophobic attitudes in the media (e.g., Television, movies, music videos, internet) that were insulting to gay and lesbian people?

Please enter a whole number ____

Please describe those instances.

In the past 3 days, how many times did you observe a negative portrayal of gay and lesbian people in the media. This does not have to be blatantly homophobic words or actions - just anything you believed to portray gay and lesbian people in a negative light.

Please enter a whole number ____

Please describe those instances.

In the past 3 days, how many times did you interact with someone who you believe made an inaccurate assumption about your sexual orientation?

Please enter a whole number ____

Please describe those instances.

In the past 3 days, how many times did you observe information in the media that was related to gay and lesbian rights?

Please enter a whole number ____

Please describe those instances.

In the past 3 days, how many times were you in a situation in which you felt that you had to conceal your sexual orientation?

Please enter a whole ____

Please describe those instances.

Appendix V

Diary Study Participants' Open-Ended Responses to Concealment Questions**Reasons for Concealment**

Participants' reasons for concealing were diverse and reflected the following concerns: how they would be perceived by others, upsetting the people they were interacting with, privacy or boundaries between personal and professional life, and negative consequences for disclosure at their places of education or work. Each of these reasons is supported by the words of the participants themselves.

Interpersonal Consequences

"Meeting a new friend. I just didn't want her to judge me right away or anything like that. I wanted her to like me for my personality and not think differently of me for anything. Also at work one employee said something about getting "more vagina" than I could. Didn't want to say anything because I thought it would make things awkward and uncomfortable."

"My friend from my old town is not really capable of thinking on her own, in my opinion. Therefore i [sic] know what her reaction will [sic] be and so when talking to her about when to hang out, she said she's just started dating this guy she fell in love with. When asking me how I was doing, I mentioned nothing about my dating life."

"I went to an Ally Training - even though it was supposed to be a safe space, I felt very pressured to fit into the group and play a straight role. The group mainly consisted of middle-aged straight women with very heterosexist ideations [sic]."

"My partner and I looked at a real estate property that was being sold privately. When we drove up to the house and noted that the selling partners were more elderly, we opted to be "friends" rather than partners. As I spoke in the house to my partner, I referred to "her kids" and such as to conceal our sexual orientation."

"I chose not to hold hands with my partner at Zellers, even though I wanted to because we have seen very little of each other lately, because she had been receiving nasty homophobic/sexist (because she looks androgynous/like a lesbian and people often cannot tell her sex) stares from another shopper. That other shopper was near us for a good portion of the time we were at Zellers so I didn't want to hold hands because I didn't want to encourage any more negativity toward my partner or to us."

"I was visiting my grandma over the weekend a number of times. She is not aware of my sexuality and sometimes asks me random questions about my recent ex-girlfriend. For example [sic] "Why haven't I seen _____ in so long". These are always tricky situations because part of me feels like she might have some sense that my relationship with my ex was more than just a friendship. But I always lie and conceal the reason she is no longer around, because I am afraid of risking my relationship with my grandma. She is 95 years old, and even though I have these inclinations that she is more aware of my sexuality than I think, I am also too afraid to potentially risk dissolving our relationship with the little time we have left together."

"I realize that I am very uncomfortable in the Women's [sic] changing room at my gym at work - [sic] don't want my coworkers to think I am checking them out even though I am...even though I'm trying really hard not to. If they knew I was gay they might be uncomfortable or feel threatened by my presence which I don't want."

"Checking in and out of the hotel this weekend and receiving room service. my partner and i [sic] bought a valentine's package deal: an overnight stay, chocolates, roses, petals, sparkling wine, 2 free martinis, and breakfast. it [sic] was pretty obvious we were a lesbian couple and was probably oversensitive in how i took in interactions around me. i [sic] hid in the bathroom wouldn't make eye contact with staff when we received room service. easier. [sic]"

"My mom and I were our [sic] for lunch and she brought up getting married to a nice girl and having children but I didn't really correct her, I just kind of ignored it. So once again I could've told her about my sexual orientation but didn't."

"With my girlfriends parents - it's so hard because we're always paying close attention to nuances....afraid we'll look at each other in a way that will give us away..."

"I had dinner with my parents (who I am not yet out to) and I had to conceal my sexual orientation because I am not ready to tell them yet. I'm scared of the fallout."

Upsetting Others

"I also deliberately kept my boy friend [sic] from my apartment because I don't want my roommates to be uncomfortable around me."

"My family friend made a homophobic comment about our waiter. When she asked if there were any 'boys' in my life. I just said no to avoid an uncomfortable conversation."

"Even though my parents know I am a lesbian, I omit the details about my sexual orientation (love interests, relationship issues, the orientation of my friends) from my parents. It makes them uncomfortable, and though they "tolerate" homosexuality, they don't exactly accept it in their daughter."

"Had dinner at an old folks home with my GF's grandma. She introduced us as roommates because the other people at the home would gossip about it if she told them the truth. I said nothing different because I know she considers me part of the family and those old ladies can be terrible gossips."

"From my grandmother, who does not know my sexual orientation, nor that I am married. I have wanted to come out to her many times in the past, but my mother has adamantly discouraged me from doing so, because of what she (my mother) would have to "deal" with in terms of my grandmother's presumably negative reaction."

Privacy/Boundaries

"As I'm in a position of authority in my part-time job, I don't feel it's professional to give anyone such personal information."

"I do not conceal my orientation, but I do not usually broadcast it either. There are fine distinctions here. When does being careful or private become concealment?"

"I usually don't tell people I meet in purely business settings - if they become acquaintances outside of business settings then I usually tell them. Generally I'm fairly private about that sort of thing and don't tell people very much unless I know them socially as well as professionally."

"Although I still keep myself private I am less inclined to keep the entire thing taboo. I tell people I am with someone I like very much and when they meet them they will be surprised. The closet for me is a gradual process and my family deserves to know before my acquaintances."

Work/School Environments

"I work in a care home for elderly residents. I believe they have some pretty fast held ideas and do not want to jeopardize how they would see me if they knew I was gay."

"I am a tour guide at _____. In the past I've had negative comments made at the portion of the tour where I point out Pride and/or the _____ Centre. As a result, I make a point to keep my sexuality to myself."

"Speaking to the hiring manager at the _____ where I have applied for a job I felt it very important to not mention my personal life at all in case he finds out I am gay and does not hire me. Typically I am loud and proud BUT [sic] I really need this job for the next couple of months so I am not telling anyone, just leaving my personal life out of it, which is ok in this one instance."

"I'm a _____ therapist and yesterday I had a client who was very much an "alpha male", so as soon as I saw him I felt I had to turn on my "straight voice". The reason I felt I had to conceal my sexual orientation from him is because it was his first ever massage and he was very nervous."

"In my _____ class my teacher is religious and so is the student who sits next to me. We exchange notes when we miss a day and study together for history. She said her religion said being gay or lesbian was a sin. So under these circumstances i always feel I have to hide my sexuality."

"Every day at work, i [sic] have to hide who i am because the boss tells me so. If I wanted to hide myself, I would, but don't make me stay in the closet that I have already opened."

"my new job, i am a bit fearful as i am a _____ worker.. [sic] i talk about my roommate, although she is really my partner, but since I work for so many families, I can't chance it"

"A VERY [sic] strict _____ co-worker who WOULD [sic] most definatly [sic] cause a stink about my gayness is giving me a ride to work in the morning and so when I texted her I said " _____ " will drop me off at your place on the way to drop off our daughter" instead of saying _____ I said ___... not LYING [sic]... but not being outright haha [sic]"

"I do work in a job with vulnerable people so i know i can be accused easily of something ...which would have to be investigated...and though i would find to innocent of what i was accused of ...it would still affect me...even where i might lose my job for a while until i was cleared...so though i think my emediate superior is nice..i do not wish to risk it especialy with some of my more conservative co-workers."

Strategies of Concealment

Like their reasons for concealment, participants' strategies of concealment varied, with the most common strategy being omission, or failure to correct the heteronormative assumptions made by others. However, they also engaged in some fabrication, misrepresenting the truth about their sexual orientation or romantic and sexual relationships through the manipulation of pronouns, or by changing their public behaviour.

Omission

"I work at a local ____ studio. Of the students and parents who attend the studio regularly, I am unaware of who know about my sexuality and who does not. I choose not to bring it up in conversation with anyone."

"I usually tend to avoid talking about personal relationships or similar topics unless someone brings it up. Then I'll usually tell people I'm single (but don't usually say I'm gay unless they ask directly)"

"I work for a _____ board so I don't discuss with colleagues my romantic life. I eat in the teacher's lounge from time to time and feel no need to discuss relationships"

"My partner's mom is in her 80's and although not ideal, it is just easier to go along with it than challenge or correct."

"Again, at work I felt I could not be honest about my sexual orientation. I have no doubt that most people assume I am a gay woman. However, if I feel unsafe (as I have for the past several weeks now) I will not confirm their suspicions by discussing my sexual orientation. Concealment is almost impossible for me but at the same time, there can be the "don't ask, don't tell" philosophy that is utilized in my work."

"The parents of my client asked me if I had a boyfriend. I told them no, but did not tell them that I had a girlfriend."

Pronoun Game

"My grandma does not like women who aren't straight (though she loves gay men) so I referred to my girlfriend just as '____' and not as 'my girlfriend'."

"I was relaying an experience with my partner and her mother and sister. When I speak [sic] of the incident and share my experience, I am very careful not to say "she" or "her". I don't use male pronouns but I speak [sic] in terms of "my partner" and "my partner's family.""

"I was relaying an experience with my partner and her mother and sister. When I speak of the incident and share my experience, I am very careful not to say "she" or "her." I don't use male pronouns but I speak in terms of "my partner" and "my partner's family." I am always afraid that if I reveal my identity, people will stop listening to what I have to say or focus on my sexual orientation rather than on the message I am giving others."

Fabrication

"I also remembered that I set up two separate Facebook accounts - one under my real name, to throw potential employers off the trail, and my private "gay" one under my online alias. Many people in the gay community would recognize my online name. My concern is that a potential employer wouldnt hire me if they knew I was gay."

"I was teaching a grade 2 class and one of the kids asked me if I had a husband and I said yes. I surprised myself in saying yes, as I do not generally lie about my sexuality and it could have been a teachable moment, but I was tired and distracted and did not have the energy to deal with the possible reactions to outing myself."

"I was at a wedding social for a friend. I brought my boyfriend. We acted more like friends as not to offend anyone."

Appendix W

Shirom-Melamed Burnout Questionnaire

(Reprinted from Melamed, S., Kushnir, T., & Shirom, A. (1992). Burnout and risk factors for cardiovascular diseases. *Behavioral Medicine, 18*(2), 53-60.
doi:10.1080/08964289.1992.9935172, used with permission)

Using the scale provided below, please indicate how often, in the past 3 days, you have experienced the following feelings.

1	2	3	4	5	6	7
Never or almost never	Very infrequently	Quite infrequently	Sometimes	Quite frequently	Very frequently	Always or almost always

1. I felt tired.
2. I had no energy for going to work in the morning.
3. I felt physically drained.
4. I felt fed up.
5. I felt like my 'batteries' were dead.
6. I felt burned out.
7. My thinking processes were slow.
8. I had difficulty concentrating.
9. I felt that I wasn't thinking clearly.
10. I felt that I wasn't focused in my thinking.
11. I had difficulty thinking about complex things.
12. I felt that I was able to be sensitive to the needs of the people around me.
13. I felt that I was not capable of investing emotionally in the people around me.
14. I felt that I was not capable of being sympathetic to the people around me.

Note. Physical fatigue = items 1-6, Cognitive weariness = items 7-11, Emotional exhaustion = items 12-14.

Appendix X

Subset of items from the Cohen-Hoberman Inventory of Physical Symptoms

(Reprinted from Cohen, S., & Hoberman, H. (1983). Positive events and social supports as buffers of life change stress. *Journal of Applied Social Psychology*, 13, 99-125. *Journal of Applied Social Psychology*, 13, 99-125, used with permission)

Select the number for each statement that best describes how much that problem has bothered or distressed you during *the past 3 days*, including today.

At one extreme, 0 means that you have not been bothered by the problem.

At the other extreme, 5 means that the problem has been an extreme bother.

How much were you bothered by:

1. Faintness
2. Back pain
3. Nausea
4. Heart pounding or racing
5. Migraine headache
6. Acid stomach or indigestion
7. Pains in the heart or chest
8. Muscle tension or soreness
9. Stomach cramps
10. Numbness or tingling in part of your body
11. Severe aches or pains

Appendix Y

Health Behaviours Checklist

Please answer the following questions by providing your best estimate of the number of times you have engaged in each of these behaviours *over the past 3 days*.

Eating

How many times in the past 3 days have you eaten fast-food (e.g., not home cooked)?

How many times in the past 3 days have you eaten snacks (e.g., chips, cookies, chocolate)?

How many times in the past 3 days have you skipped a meal?

How many times in the past 3 days have you eaten something to make yourself feel better (e.g., to make you feel less sad or to reduce stressful feelings)?

Substance Use

In the past 3 days, how many cigarettes did you smoke?

In the past 3 days, how many alcoholic beverages did you consume?

Sleep and Exercise

In the past 3 days, how many times have you had difficulty sleeping?

In the past 3 days, how many times have you exercised for 30 minutes or more?