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Differentiating Disclosure and Concealment in Measurement of Outness for Sexual Minorities: The Nebraska Outness Scale

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Abstract

Research on lesbian, gay, and bisexual (LGB) individuals has long examined outness, or openness about one's sexual orientation, as an important predictor of health and well-being. The authors re-conceptualized outness as a composite of two related but independent constructs: *disclosure* and *concealment* of sexual orientation. This conceptualization guided creation of the Nebraska Outness Scale (NOS), a 10-item measure with a concealment (NOS-C) and disclosure (NOS-D) subscale. The scale and subscales showed good internal reliability, discriminant, convergent, and predictive validity. As hypothesized, concealment showed a stronger relationship to mental health and well-being constructs than disclosure. Disclosure, but not concealment, also differed across sexual orientations with bisexual individuals reporting less disclosure and mostly gay/lesbian and gay/lesbian individuals reporting successively higher levels. The authors conclude that concealment and disclosure are separate constructs and that concealment may be more relevant to minority stress processes among LGB individuals and may provide a more comparable measure across sexual orientation categories. Further research is needed to validate the scale and to examine the role that outness plays in minority stress among LGB individuals.

Keywords: outness, gay, lesbian, bisexual, minority stress, measurement

Previous research has indicated that individuals who identify as lesbian, gay, and bisexual (LGB) individuals are at a higher risk of mental disorders than the population at large

(Bostwick, Boyd, Hughes, & McCabe, 2010; Meyer, Dietrich, & Schwartz, 2008; see Meyer, 2003 for a broader meta-analysis). This higher rate is generally attributed to *minority stress*, conceptualized as additional stressors that LGB individuals face that are beyond what majority group members experience, such as discrimination, internalized homophobia, and general stressors impacted by minority status (e.g., lack of social support due to being LGB; e.g., Bailey, 1999; Friedman, 1999; Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009; Ross, 1990).

Understanding how minority stress affects LGB individuals involves an understanding of the complex interplay between external (e.g., discrimination) and internal (e.g., internalized homonegativity) factors (e.g., Meyer, 2003). One crucial construct in understanding the interplay between the factors composing minority stress and stress as a whole among LGB individuals is openness about one's sexual orientation, known as *outness*. We use outness throughout as a term encompassing both concealment and disclosure of sexual orientation due to the conflation of these two constructs (discussed below) in many of the measurement models used in prior research. Outness has appeared in various versions in LGB research for many years (e.g., Frost, Parsons, & Nanin, 2007; McKirnan & Peterson, 1989) and plays a central role in Meyer's (2003) minority stress framework.

Outness has been linked to outcomes of minority stress such as depression (e.g., Frost et al., 2007) and anxiety (Pachankis & Bernstein, 2012), and protective factors such as social support (Ullrich, Lutgendorf, & Stapleton, 2003). Over time there is some evidence that the direction of these relationships has changed with some older studies indicating that outness was predictive of *more* mental health problems (e.g., McKirnan & Peterson, 1989; Ross, 1990) but with most research conducted in the last 10 to 20 years indicating that greater outness is associated with *better* mental and physical health (e.g., Bradford, Ryan, & Rothblum, 1994; Cole, Kemeny, Taylor, & Visscher, 1996; Morris, Waldo, & Rothblum, 2001; Ullrich, Lutgendorf, Stapleton, & Horowitz, 2004). This may be related to decreases in the stigma associated with LGB identities, decreasing the costs of outness (e.g., discrimination) relative to the benefits (e.g., decreased self-monitoring). There are, however, some notable exceptions to this trend including some research indicating outness may be associated with greater stress and negative affect in certain circumstances (e.g., some work places in Huebner & Davis, 2005) and some older studies with mixed (Rosario, Hunter, Maguen, Gwadz, & Smith, 2001) or opposing results (Fribley, Wortman, & Joseph, 1997; Hershberger, Pilkington, & D'Augelli, 1997).

One notable gap in the research on outness is that bisexuals have largely been left out of research samples. So while the importance of outness is well established for lesbian and gay individuals and is theoretically similar in bisexuals (e.g., Meyer, 2003), less is known about the construct in bisexuals. However, one recent study by Schrimshaw, Siegel, Downing, and Parsons (2013) assessed outness among behaviorally bisexual by assessing both concealment and disclosure independently. They found greater concealment was associated with poorer mental health but that there was no significant relationship with disclosure. Outness may be a more complex process for individuals with a bisexual identity because it may require more explicit disclosure. For instance a gay, lesbian, or heterosexual individual may assume disclosure of their sexual orientation through the casual mention

of their partner's gender, whereas for a bisexual individual this disclosure may not be complete and require additional information or explicit disclosure.

In contrast to research on outness and bisexuality, there has been more research into gender effects with LGB-identified men having an earlier age of first same-sex attraction than LGB-identified women (Floyd & Bakeman, 2006; Herek, Cogan, Gillis, & Glunt, 1998; Savin-Williams & Diamond, 2000). There are higher potential negative consequences of disclosure for men since they report more experiences of discrimination than women (Herek, 2009; D'Augelli & Grossman, 2001). However, there appear to be no differences in overall outness between men and women (Balsam & Mohr, 2007; Herek et al., 1998; Mohr & Fassinger, 2000) despite differences in the development process. Some research has found that women were more likely than men to have disclosed to their father with no one else present (Herek et al., 1998) and women may make their first disclosure earlier than men in certain contexts (Calzo, Antonucci, Mays, & Cochran, 2011).

How outness is operationalized varies from study to study but can be broadly understood as emphasizing either *disclosure* (e.g., Herek et al., 1998) or *concealment* of sexual orientation (e.g., Pachankis, Goldfried, & Ramrattan, 2008) on a unidimensional continuum. Disclosure is the active indication of one's sexual orientation through speech or action while concealment is the active avoidance of this disclosure. The line between concealment and disclosure often becomes blurred in the research and researchers have used the same measures when explicitly assessing both concealment and disclosure or used measures intended to tap one construct when attempting to measure the other (e.g., Berger, Ferrans, & Lashley, 2001; Frost et al., 2007; Mohr & Fassinger, 2003; Pérez-Benitez, O'Brien, Carels, Gordaon, & Chiros, 2007). However, concealment may link more strongly to minority stress than disclosure. In Pachankis' (2007) cognitive-affective behavioral model of stigma concealment, he argued that the process of active stigma concealment is itself a source of psychological stress with negative cognitive (e.g., preoccupation, vigilance), affective (e.g., anxiety, depression), and behavioral (e.g., impression management, social isolation) implications. Furthermore, concealment is functionally independent of disclosure and may continue even after disclosure has occurred. For example, a gay man who has disclosed his sexual orientation to his parents and received a negative reaction may continue to conceal aspects of that identity such as information about his romantic relationships, similar to what Yoshino (2006) referred to as "covering." This concealment may vary importantly across social contexts and relationships. There has been little research comparing disclosure and concealment, with the research that has been conducted indicating that there may be important differences between the two, at least for bisexual men (Schrimshaw et al., 2013).

How Is "Outness" Measured?

Most attempts to measure outness have focused on quantifying disclosure, regardless of whether the intended construct in the research is concealment or disclosure. McKirnan and Peterson (1989) measured outness by calculating the proportion of nine specific social groups (e.g., parents, immediate work group) to whom an individual had disclosed their

sexual orientation. Similarly, Bradford et al. (1994) and Morris et al. (2001) measured outness by asking participants to estimate the percentage of four groups (family, heterosexual friends, LGB friends, and coworkers) who were aware of the respondent's sexual orientation. Herek and associates (1998) asked participants to quantify the proportion of three separate social subgroups (e.g., heterosexual friends known prior to coming out) who were aware of the respondent's sexual orientation on 10-point Likert items.

Other research (e.g., Cole et al., 1996; Ullrich et al., 2004) has attempted to quantify outness with direct questions such as asking gay men to judge how "in the closet" they are relative to other gay men. A similar concealment-focused measure used in Pachankis and associates (2008) assessed openness about sexual orientation on a 7-point scale ranging from "1 (*sexual orientation completely hidden from others*)" to "7 (*completely open with others about sexual orientation*)". Wells and Kline (1987) used open-ended questions (e.g., "Whom do you tell you are lesbian or gay and what determines whom you tell?"), categorized the responses, and then analyzed these categorical responses using chi square tests to determine proportional group differences between gay and lesbian individuals.

These measurement approaches to outness generally capture the initial disclosure but fail to capture ongoing decisions about whether or not to conceal aspects of an individual's sexual orientation. Many relationships with family, neighbors, or coworkers may continue regardless of the response to disclosure. LGB individuals then must make ongoing decisions about whether or not to share information related to their sexual orientation (e.g., mentioning their significant other by name in conversation). Measures purporting to assess outness should account for both initial disclosure and ongoing concealment.

The most formal attempt at scale creation and validation is Mohr and Fassinger's (2000) Outness Inventory (OI), which attempted to take initial and ongoing disclosure into account. The OI assesses outness using one item across multiple social groups that combines whether or not an individual or group knows about the respondent's sexual orientation and the amount that their sexual orientation is discussed in a single continuum. The scores across various social groups are then combined into overall scores. The combination of these two variables, disclosure and amount of discussion, into a single continuum, however, raises significant conceptual and measurement issues since they may function independently of one another.

One problematic assumption of the OI is that the degree to which an individual's sexual orientation is discussed is dependent on their outness, not other factors. However, the amount of discussion one has about one's sexual orientation depends more on individual factors (e.g., relationship status, communicativeness) and contextual factors (e.g., social environment, social norms) than on one's openness regarding one's sexual orientation (Cain, 1991). Discussion of sexual orientation with friends may follow the patterns implied by the scale but with other groups, such as "strangers" and "religious leaders," it is unlikely to do so. In fact, when the OI was given to heterosexual individuals they also followed the same patterns of markedly lower "outness" to strangers and religious leaders, despite the lack of stigma attached to being heterosexual (Morales-Knight, 2010).

In summary, the two components of outness, concealment, and disclosure of sexual orientation are critical constructs in minority stress frameworks and have been shown to be important constructs for understanding the health and well-being of LGB individuals

through their relationships with mental health constructs such as depression, anxiety, social support, and physical health. While there are theoretical reasons for expecting concealment to show stronger relationships with mental health and minority stress constructs, only one study of bisexual men (Schrimshaw et al., 2013) has demonstrated this pattern. There is little consistency in the literature with regard to how these constructs are measured and the two are frequently conflated with one another both conceptually and in terms of measurement.

Given the importance of outness in understanding minority stress for sexual minorities and the problems in current measures of outness described above, the present study describes the development and initial validation of a new outness scale. The Nebraska Outness Scale (NOS) includes concealment (NOS-C) and disclosure (NOS-D) subscales to capture both aspects of outness. After investigating the internal consistency, the convergent, predictive, and discriminant validity for the full scale and subscales were investigated with the following hypotheses: (a) lower outness on both subscales and the full scale NOS will be associated with higher minority stress constructs, poorer mental health, and lower quality of life for individuals identifying as lesbian, gay, and bisexual, but the NOS-C will be more strongly related to these constructs than the NOS-D, and (b) the NOS-C will be more strongly related than the OI to indicators of minority stress, social anxiety, and quality of life.

Method

Participants

There were 192 participants (104 men, 84 women, 1 transgender male-to-female, 3 transgender female-to-male) recruited to complete an online survey via emails sent out through LGB-affiliated Listservs¹ requesting the responses of individuals who identified as lesbian, gay, or bisexual. All participants were 19 years of age (the age of legal majority in Nebraska) or older and were required to affirm their age in order to participate by checking a box in the survey. There were 33 responses discarded due to not finishing the survey, seven because the participant identified as exclusively or mostly heterosexual, and three for responding incorrectly to validity items (e.g., "Please select 'True' for this answer"), leaving 149 participants with valid response sets. While the mostly heterosexual group represents a distinct population to which this research would be highly relevant (see Savin-Williams & Vrangalova, 2013 for a review), these participants were excluded because the number of participants with this identity was too small to obtain valid statistical information. There were 75 men and 74 women (1 transgender male-to-female grouped with the women for data analyses, 2 transgender female-to-male grouped with the men), ranging in age from 19 to 66 years ($M = 28.93$; $SD = 11.07$). Consistent with research indicating important variability in sexual orientation beyond traditional gay/bisexual/straight categories (e.g., Vrangalova & Savin-Williams, 2010), sexual orientation was measured by asking participants to choose from one of the following choices: *gay/lesbian*, *mostly gay/lesbian*, *bisexual*, *mostly straight*, and *straight*. There were 58 individuals who identified as gay, 44 identified as lesbian, 24 (6 men and 18 women) identified as bisexual, and 23 (11 men and 12 women) identified as mostly gay/lesbian. Race and ethnicity data were unavailable for

the first 71 participants due to a programming error. The remaining participants identified as 9% ($N = 7$) Hispanic, 91% ($N = 71$) Non-Hispanic. In a separate item, 2.5% ($N = 2$) identified as African American, 2.5% ($N = 2$) as Asian American, 87.2% ($N = 68$) as European American, 5.1% ($N = 4$) as Biracial, and 2.5% ($N = 2$) "other." No one identified as Native American.² The first three digits of postal codes were collected and indicated that participants came from 23 states across the United States with 67% coming from the 12 states composing the Midwest region.

Measures

Nebraska Outness Scale (NOS)

For the present study outness was defined as openness about one's sexual orientation. This was operationalized into the rationally derived 10-item NOS, composed of two separate 5-item subscales, one measuring disclosure (NOS-D) and one measuring concealment (NOS-C). These items were developed through a review of the literature and an examination of other data on the OI (see Appendix A for the complete measure). All responses were given on 11-point Likert-type scales, which was increased from the 10-point response scale in the OI (Mohr & Fassinger, 2000) to allow for a midpoint. For the NOS-C this ranged from 0 "Never avoid" to 10 "Always avoid" and for the NOS-D from 0% "None" to 100% "All." These two separate subscales were selected because of the conceptual independence of disclosure and concealment in LGB individuals. The NOS-D assesses disclosure by asking the proportion of a group that was aware of the participant's sexual orientation. The NOS-C assesses concealment by asking the proportion of time around a group that they avoid indicating their sexual orientation regardless of whether members of that group are aware of their sexual orientation or not. Both subscales ask these questions across five different groups: immediate family, extended family, friends, people at work or school, and strangers (e.g., people one interacts with casually such as a person one has a casual conversation with in a line at the store). Previous research has generally examined outness across contexts and social groups and these specific groups were selected for this scale to cover the major professional, personal, and family groups a person interacts with, as well as an item assessing outness with individuals in casual interactions. Family was subdivided into immediate and extended family since research continues to indicate that acceptance by immediate family members has important long-term impacts (e.g., D'Augelli, Hershberger, & Pilkington, 1998; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010). In the current study, both subscales and the full scale showed good internal reliability with $\alpha = .89$ for the full scale NOS, $\alpha = .80$ for the NOS-C, and $\alpha = .82$ for the NOS-D. For the full scale, internal consistency ranged from $\alpha = .87$ to $.92$ across genders and sexual orientations. The NOS subscales were scored by computing a mean of the items, with higher scores on the NOS-C indicating greater concealment and higher scores on the NOS-D indicating greater disclosure. The NOS-C scores were then reversed and a mean computed with the NOS-D to yield the full scale NOS, for which higher scores indicate greater outness.

Single Item Outness (SI)

The SI was a single face-valid item that asked participants to rate how out they felt they were on a scale ranging from 0% “Not at all” to 100% “Completely.”

Outness Inventory (OI)

The OI is a 10-item measure that assesses an LGB individual’s outness about their sexual orientation on three primary subscales (world, family, and religion) (Mohr & Fassinger, 2000). Participants are asked to provide ratings for different social groups (e.g., “My old straight friends,” “Leaders of my religious community”) on a scale ranging from 1 “Person definitely does not know about your sexual orientation status” to 7 “Person definitely knows about your sexual orientation status, and it is openly talked about.” It has demonstrated good internal consistency among the subscales and convergent validity with related minority stress constructs (Mohr & Fassinger, 2003; Vaughan & Waehler, 2010). Higher scores on the OI indicate greater outness. For the present study, internal consistency ranged from $\alpha = .84$ to $.95$ across genders and sexual orientations.

Gay-Related Rejection Sensitivity Scale (GRRSS)

The GRRSS is a 14-item measure designed to examine an LGB individual’s expectation of social rejection by heterosexuals due to their own sexual orientation (Pachankis et al., 2008). The scale presents ambiguous situations indicating some degree of social rejection or isolation (e.g., “You go to a party and you and your partner are the only gay people there. No one seems interested in talking to you”). The scale then asks participants to rate how anxious or concerned they would be that it was a result of their sexual orientation on a Likert-type scale from 0 “Very unconcerned” to 6 “Very concerned” and how likely they thought this occurred as a result of their sexual orientation on a 0 “very unlikely” to 6 “very likely” scale, with higher scores on the scale indicating greater rejection sensitivity. This measure has shown good internal consistency with $\alpha = .80$ (Pachankis & Goldfried, 2010) and good convergent validity with theoretically related measures of fear of negative evaluation and impression management (Pachankis et al., 2008), as well as being predictive of mental health (Feinstein, Goldfried, & Davila, 2012). The original measure focused solely on gay men and revisions were made to the measure by the second author so there was both a masculine and feminine version of the measure, principally by changing the gender of pronouns. In the current study $\alpha = .87$ for men and $.89$ for women, indicating the wording changes for the feminine version did not change the internal consistency substantially. Internal consistency ranged from $\alpha = .87$ to $.90$ across sexual orientations.

Internalized Homophobia Scale (IHS)

The IHS is a 9-item self-report measure that assesses the degree to which an individual has internalized negative views of homosexuality (Herek et al., 1998). The scale was modified by the second author to include lesbian and bisexual individuals. Participants were asked to respond to statements (e.g., “I wish I weren’t gay/lesbian/bisexual”) on a scale ranging from 1 (*disagree strongly*) to 5 (*agree strongly*), with higher scores indicating greater internalized homophobia. It demonstrated good internal consistency in the initial study and good convergent validity with related minority stress and mental health constructs (Herek et al.,

1998; Pachankis et al., 2008). In the present study $\alpha = .80$ for men and $\alpha = .87$ for women. Internal reliability ranged from $\alpha = .66$ to $.94$ across sexual orientations.

Brief Fear of Negative Evaluation Scale (BFNE)

The BFNE is a 12-item measure designed to assess an individual's fear of being evaluated by others (Leary, 1983). Each item is a statement (e.g., "I am afraid that others will not approve of me") and participants are asked to rate how characteristic it is of them on a scale ranging from 1 (*Not at all characteristic of me*) to 5 (*Extremely characteristic of me*). It showed high internal reliability in the original study with $\alpha = .90$ and ranged from $\alpha = .89$ to $.95$ in the present study across genders and sexual orientations. It has also shown good discriminant validity in comparison to measures of different anxiety constructs and convergent validity with other measures of social anxiety (Weeks et al., 2005), although some analyses have revealed that reverse-scored items function somewhat differently than non-reverse-scored items (Rodebaugh et al., 2004).

Positive and Negative Affect Schedule (PANAS)

The PANAS assesses positive and negative affect on two separate 10-item subscales (Watson, Clark, & Tellegen, 1988). Participants were asked to rate the degree to which they felt both positive (e.g., "excited") and negative (e.g., "hostile") emotions generally on a 5-point Likert-type scale ranging from 1 "Very slightly or not at all" to 5 "Extremely." Both subscales demonstrated good internal consistency and convergent validity with other measures of positive and negative affect in its initial validation study. It also has shown good discriminant validity in comparison to measures of related but distinct cognitive traits such as optimism (Lucas, Diener, & Suh, 1996). For the present study internal consistency ranged from $\alpha = .84$ to $.91$ for the Positive Affect Scale (PAS) and $\alpha = .81$ to $.89$ for the Negative Affect Scale (NAS) across genders and sexual orientations.

Quality of Life Inventory (QOLI)

The QOLI is a 32-item self-report measure designed to assess mental well-being across 16 separate domains (e.g., "Goals and Values," "Health") by asking individuals to rate the importance of each domain on a scale from 0 "Not important" to 3 "Extremely important" and their satisfaction with them on a scale from -3 "Very Dissatisfied" to $+3$ "Very Satisfied" (Frisch, 1994). It has demonstrated good convergent validity with measures of well-being, discriminant validity from measures of psychopathology (Frisch, Cornell, Villanueva, & Retzlaff, 1992), predictive validity for academic retention at a university, and sensitivity to change across therapeutic treatment (Frisch et al., 2005). In the present study internal reliability was good, ranging from $\alpha = .83$ to $.89$ across genders and sexual orientations.

Social Support Questionnaire (SSQ)

This abbreviated version of the SSQ is a 6-item measure that assesses social support in a number of domains (e.g., acceptance, honesty) by asking participants to list individuals that support them and rate their satisfaction with that support from 1 "Very satisfied" to 6 "Very dissatisfied" (Sarason, Sarason, Shearin, & Pierce, 1987). This measure showed good convergent validity with longer versions and predictive validity for measures of anxiety

and depression in its initial study and acceptable internal reliability. Internal reliability for the present study ranged from acceptable to good, $\alpha = .62$ to $.81$ across genders and sexual orientations.

Procedure

Participants were invited to participate in an anonymous online survey about “who is out and what does it mean.” After reviewing and electronically agreeing to the informed consent, participants completed the complete survey with demographics first, the NOS or OI next, randomly determined, followed by the other measures in a fixed order. After completion of the measure, participants were debriefed and thanked. There was no remuneration. All procedures were approved by the University of Nebraska–Lincoln Institutional Review Board.

Results

A preliminary multivariate analysis of variance (MANOVA) was conducted to examine overall gender (men and women), sexual orientation (gay/lesbian, mostly gay/lesbian, and bisexual), and the interaction of gender and sexual orientation across the NOS-C, the NOS-D, the SSQ, the GRRSS, the BFNE, the QOLI, the IHS, and both subscales of the PANAS. The results indicated that there were significant main effects of gender (Wilks = $.87$, $F(9, 119) = 2.04$, $p = .04$) and sexual orientation (Wilks = $.58$, $F(18, 238) = 4.11$, $p < .01$) but the interaction between sexual orientation and gender was not significant (Wilks = $.82$, $F(18, 238) = 1.43$, $p = .12$). Despite the significant multivariate effect, none of the univariate follow-ups for gender were significant and there was no identifiable pattern in the means. Univariate analyses comparing the sexual orientation groups showed significant differences on the IHS, $F(2, 127) = 5.13$, $p = .01$, the negative subscale of the PANAS, $F(2, 127) = 4.16$, $p = .02$, and the NOS-D, $F(2, 127) = 14.69$, $p = .01$. As shown in Table 1, post hoc follow-ups using Tukey’s HSD indicated that the mostly gay/lesbian group reported significantly higher scores on the IHS than the gay/lesbian group ($d = .56$, $p < .01$), while the bisexual group did not differ significantly from the other groups. Similarly with the negative subscale of the PANAS the mostly gay/lesbian group reported significantly higher scores than the gay/lesbian group ($d = .47$, $p = .02$), but the bisexual group did not differ significantly from either. The scores on the NOS-D differed for all three groups, with the bisexual group reporting significantly lower scores than both the gay/lesbian ($d = 1.03$, $p < .01$) and mostly gay/lesbian groups ($d = .45$, $p = .03$) and the gay/lesbian group reporting scores significantly higher than those of the mostly gay/lesbian group ($d = .45$, $p = .03$). Given that the gender and sexual orientation groups differed on a minority of measures and the interaction was not significant, the primary analyses collapsed across gender and sexual orientation.

Table 1. Variable Means and Standard Deviations by Sexual Orientation

	Bisexual <i>N</i> = 24 <i>M</i> (<i>SD</i>)	Mostly gay/lesbian <i>N</i> = 23 <i>M</i> (<i>SD</i>)	Gay/lesbian <i>N</i> = 102 <i>M</i> (<i>SD</i>)
Full scale NOS	4.86 (2.59)	5.91 (2.26)	6.78 (2.02)
NOS-C*	4.36 (3.00) ^a	3.97 (2.40) ^a	3.47 (2.39) ^a
NOS-D*	4.08 (2.50) ^a	5.78 (2.29) ^b	7.04 (1.90) ^c
OI	3.80 (1.70)	4.43 (1.54)	5.10 (1.28)
SI	5.79 (2.92)	7.74 (2.22)	8.49 (1.68)
PANAS-NAS*	21.21 (7.71) ^{ab}	24.35 (5.77) ^a	20.19 (6.74) ^b
PANAS-PAS*	35.50 (7.78) ^a	33.70 (6.51) ^a	37.24 (6.31) ^a
BFNE*	40.13 (12.83) ^a	37.00 (9.77) ^a	36.46 (10.06) ^a
SSQ*	5.19 (.88) ^a	4.81 (.97) ^a	5.32 (.88) ^a
QOLI*	2.17 (1.80) ^a	1.39 (1.99) ^a	2.22 (1.59) ^a
IHS*	1.63 (.79) ^{ab}	1.93 (.80) ^a	1.55 (.59) ^b
GRRSS*	14.18 (9.52) ^a	16.15 (8.96) ^a	16.94 (8.70) ^a

Note: NOS-C = Concealment Subscale of the Nebraska Outness Scale; NOS-D = Disclosure Subscale of the Nebraska Outness Scale; NOS-FS = Full Scale Score of the Nebraska Outness Scale; OI = Outness Inventory; SI = Single Item Outness; IHS = Internalized Homophobia Scale; GRRSS = Gay-Related Rejection Sensitivity Scale; PANAS-PAS = Positive Affect Scale of the Positive and Negative Affect Scale; PANAS-NAS = Negative Affect Scale of the Positive and Negative Affect Scale; SSQ = Social Support Questionnaire; QOLI = Quality of Life Inventory. For measures included in the preliminary MANOVA, groups with the same superscript did not differ significantly according to Tukey's HSD follow-ups.

* Denotes measures included in the preliminary MANOVA.

Validity of NOS

The NOS showed good convergent validity with other measures of outness, correlations, and comparisons are shown in Table 2. The OI showed convergence with the full scale NOS, the NOS-C, and the NOS-D. Similarly strong relationships were found with the single item outness measure for the full scale NOS, the NOS-C, and the NOS-D.

The NOS also showed significant relationships with conceptually related constructs but these relationships were in the small to moderate range and hence were not so strong as to indicate conceptual overlap. The IHS was related to the full scale NOS, the NOS-C, and the NOS-D. The GRRSS also showed relationships with the full scale NOS and the NOS-C but not the NOS-D.

The NOS demonstrated some predictive utility in its relationships with important mental health and well-being measures. The BFNE was related to the full scale NOS, the NOS-C, and the NOS-D. The SSQ was also related to the full scale NOS, the NOS-C, and the NOS-D. The QOLI was related to the full scale NOS and the NOS-C but not the NOS-D ($p = .16$). A full correlation table of all major variables is shown in Table 3.

Table 2. Subscale and Full Scale Correlations of the NOS

	NOS-C	NOS-D	NOS-FS
Convergent validity			
OI	-.74** ^a	.83** ^a	.84**
SI	-.63** ^a	.74** ^a	.73**
Discriminant validity			
IHS	.43**	-.40**	-.45**
GRRSS	.27** ^a	-.09 ^a	-.20*
Predictive validity			
BFNE	.45** ^a	-.34** ^a	-.43**
PANAS-PAS	-.32**	.27**	.32**
PANAS-NAS	.34**	-.26**	-.32**
SSQ	-.34** ^a	.23** ^a	.30**
QOLI	-.26** ^a	.12 ^a	.20*

Note: NOS-C = Concealment Subscale of the Nebraska Outness Scale; NOS-D = Disclosure Subscale of the Nebraska Outness Scale; NOS-FS = Full Scale Score of the Nebraska Outness Scale; OI = Outness Inventory; SIO = Single Item Outness; IHS = Internalized Homophobia Scale; GRRSS = Gay-Related Rejection Sensitivity Scale; PANAS-PAS = Positive Affect Scale of the Positive and Negative Affect Scale; PANAS-NAS = Negative Affect Scale of the Positive and Negative Affect Scale; SSQ = Social Support Questionnaire; QOLI = Quality of Life Inventory; *N* ranged from 133 to 149 due to missing data.

a. Indicates the NOS-C and NOS-D differ according to Steiger's *Z*, $p < .05$.

* $p < .05$. ** $p < .01$.

Table 3. Correlations among Major Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
NOS-D		-.75**	.93**	.83**	.74**	-.09	-.40**	-.34**	.27**	-.26**	.23**	.12
NOS-C			-.94**	-.74**	-.63**	.27**	.43**	.45**	-.32**	.34**	-.34**	-.26**
NOS-FS				.84**	.73**	-.20*	-.45**	-.43**	.32**	-.32**	.30**	.20*
OI					.68**	-.11	-.43**	-.36**	.26**	-.35**	.25**	.19*
SI						-.08	-.42**	-.33**	.23**	-.20*	.10	.08
GRRSS							.08	.36**	-.10	.32**	-.07	-.14
IHS								.30**	-.14	.39**	-.19*	-.12
BFNE									-.35**	.62**	-.22**	-.39**
PANAS-PAS										-.34**	.34**	.48**
PANAS-NAS											-.34**	-.53**
SSQ												.40**
QOLI												

Note: NOS-C = Concealment Subscale of the Nebraska Outness Scale; NOS-D = Disclosure Subscale of the Nebraska Outness Scale; NOS-FS = Full Scale Score of the Nebraska Outness Scale; OI = Outness Inventory; SI = Single Item Outness; IHS = Internalized Homophobia Scale; GRRSS = Gay-Related Rejection Sensitivity Scale; PANAS-PAS = Positive Affect Scale of the Positive and Negative Affect Scale; PANAS-NAS = Negative Affect Scale of the Positive and Negative Affect Scale; SSQ = Social Support Questionnaire; QOLI = Quality of Life Inventory.

* $p < .05$. ** $p < .01$.

Differential Utility of the Subscales

Steiger's Z was used to compare the differential utility of the two subscales by comparing the absolute strength of their relationships with the variables included in the validity analyses. As predicted, the NOS-D showed significantly stronger relationships than the NOS-C to both the OI ($Z = 2.59, p < .01$) and the single-item outness measure ($Z = 2.81, p < .01$). Contrary to predictions there was no difference in the subscales relationship with the IHS ($Z = 1.10, p > .05$). As predicted, however, the NOS-C was more strongly related to the GRRSS ($Z = 3.08, p < .01$) than the NOS-D. The NOS-C also showed stronger relationships than the NOS-D with all three outcome measure, the BFNE ($Z = 2.05, p < .05$), the SSQ ($Z = 2.03, p < .05$), and the QOLI ($Z = 2.43, p < .05$). There was, however, no difference in the strength of the relationships of the NOS-C and NOS-D with either the PANAS-PAS ($Z = .83, p > .05$) or the PANAS-NAS ($Z = 1.45, p > .05$).

Differential Utility Compared to the OI and SI

Following the analyses above, Steiger's Z was again used to test the differential utility of the NOS-C as compared to the OI. As predicted, the NOS-C showed a significantly stronger relationship with the GRRSS ($Z = 2.74, p < .01$) but, contrary to predictions, there were no differences in the strengths of relationships with the BFNE ($Z = 1.66, p > .05$), the SSQ ($Z = 1.49, p > .05$), or the QOLI ($Z = 1.13, p > .05$).

Steiger's Z was also used to test the differential predictive utility of the NOS and SI. The NOS-D ($Z = 2.09, p < .05$), NOS-S ($Z = 3.37, p < .01$), and full scale NOS ($Z = 3.33, p < .01$) had significantly stronger relationships with the SSQ than did the SI. Both the NOS-C ($Z = 2.61, p < .01$) and full scale NOS ($Z = 2.12, p < .05$) but not the NOS-D ($Z = .77, p > .05$) had a stronger relationship with the QOLI than did the SI. The relationships of the NOS-D ($Z = .32, p > .05$), the NOS-C ($Z = 1.94, p > .05$), and the full scale NOS ($Z = 1.79, p > .05$) with the BFNE were not significantly different from that of the SI.

Discussion

The NOS and its subscales showed good internal consistency and validity. As hypothesized, concealment showed stronger relationships with social anxiety, social support, quality of life and the gay-related rejection sensitivity than disclosure, although there was no significant difference in terms of their relationship to internalized homonegativity. While it was predicted that concealment would show stronger relationships to minority stress constructs than the OI, this was only partially supported, with the only significant difference being that concealment was more strongly related to gay-related rejection sensitivity. With regard to the utility of disclosure and concealment measures across different groups, there were no gender differences in terms of either disclosure or concealment. However, there were significant differences in disclosure across sexual orientation categories with bisexual individuals reporting less disclosure and the mostly gay/lesbian and gay/lesbian categories reporting progressively more disclosure. There were no differences across sexual orientation categories, however, in concealment.

Up to this point, most measures of outness have varied widely from study to study. This lack of consistency in measurement has made the degree to which these results are comparable to one another somewhat unclear. This has been further confused by the fact that some research has utilized concealment-focused measures while some has used disclosure-focused measures. The present study sought to standardize the measurement of outness among LGB individuals and examine the possible differences between the relationships of disclosure and concealment to various minority stress variables. The results indicate that concealment and disclosure are separate constructs and that they have different implications for the well-being of LGB individuals. Research that fails to distinguish between concealment and disclosure or confounds the two should be interpreted with some caution as a result. These results also support theoretical work that has indicated that concealment is more strongly related to well-being than disclosure (Pachankis, 2007).

Interestingly, this research also seems to indicate that concealment may not only bear a stronger relationship to minority stress but also be more consistent across sexual orientations than disclosure. This may be because the process of disclosure may be more complex for bisexual individuals who may be presumed to be heterosexual or gay or lesbian, dependent on current, recent, or prospective romantic relationships. Full disclosure of their sexual orientation may then require explicit disclosure rather than more implicit or indirect means that may be available to both heterosexual and gay or lesbian individuals. These data indicate, however, that bisexual individuals do not seem to be actively concealing their sexual orientations, which is potentially important when one considers the stronger negative relationships concealment showed with mental health and well-being in the present study and other recent research (Schrimshaw et al., 2013).

It was also somewhat surprising that individuals identifying as mostly gay or lesbian appeared to be distinguishable from other sexual orientation categories. Who these individuals are is unclear, as are the reasons that they endorse greater homonegativity. It is certainly possible that due to this internalized homonegativity they are unable to identify as gay/lesbian or it could be that they are a group that is socially identified as gay/lesbian and conceals the heterosexual portion of their identity, resulting in cognitive dissonance and internalized homonegativity. Given sexual orientation was measured only by self-labeling in this study (e.g., rather than with a behavioral definition) no information is available regarding romantic relationships or involvement with the LGB community. This subgroup may represent an important population, similar to recent research on mostly straight individuals (e.g., Vrangalova & Savin-Williams, 2010).

This study has significant strengths including a broad sample and a range of sexual orientations. The format of the survey online also allowed anonymity, which may decrease social desirability in responses that would have biased results. Limitations include the correlational nature of the data on outness, mental health, and well-being, which precludes determination of causality and the absence of a specific measure of biphobia. Finally, while racial/ethnic data are not available for all participants, the data that are available indicated it was largely a European American sample, which may be partly reflective of the region from which the research was conducted, but the generalizability to other groups is unclear.

Future research should continue to examine the reliability and validity of the NOS and the relationships between outness and minority stress, particularly looking more closely

at the role concealment may play in mental health issues and high-risk behavior. Further research should also seek to examine these processes longitudinally since this study, and most others examining outness, focus only on a single assessment. Additionally, while this study did not examine the factor structure of the NOS, future research should do so, particularly with aims to examine structural differences across groups. Although this study indicated that concealment is more strongly related to minority stress variables than disclosure, it should be noted that this study examined only a handful of variables and there is potential for disclosure to be important in different areas or in different contexts and stages of identity development. Furthermore, the NOS-C was examined in the presence of the NOS-D and it is unclear what its characteristics would be without its presence, since the NOS-D may have helped participants differentiate concealment from disclosure. Additionally, this research raised the question of whether there is a definable mostly gay or lesbian group and the possibility that there may be important implications of membership in this group. Further research, particularly longitudinal research, would likely provide important information regarding these individuals and whether their identity and/or homonegativity change over time.

Notes

1. The Listservs through which the invitations were sent included the American Psychological Association's Division 44: Society for the Psychological Study of Lesbian, Gay, Bisexual, and Transgender Issues, and the Consortium of Higher Education LGBT Resource Providers, which is a Listserv used primarily to disseminate information to LGBT Listservs at colleges and universities around the country.
2. Participants who did and did not provide data on race/ethnicity were compared on all other demographic items and questionnaire scores. The two groups did not differ (all $p > .05$).

References

- Bailey, J. M. (1999). Homosexuality and mental illness. *Archives of General Psychiatry*, 56, 883–884. <http://dx.doi.org/10.1001/archpsyc.56.10.883>
- Balsam, K. F., & Mohr, J. J. (2007). Adaptation to sexual orientation stigma: A comparison of bisexual and lesbian/gay adults. *Journal of Counseling Psychology*, 54, 306–319. <http://dx.doi.org/10.1037/0022-0167.54.3.306>
- Berger, B. E., Ferrans, C. E., & Lashley, F. R. (2001). Measuring stigma in people with HIV: Psychometric assessment of the HIV stigma scale. *Research in Nursing & Health*, 24, 518–529. <http://dx.doi.org/10.1002/nur.10011>
- Bostwick, W. B., Boyd, C. J., Hughes, T. L., & McCabe, S. E. (2010). Dimensions of sexual orientation and the prevalence of mood and anxiety disorders in the United States. *American Journal of Public Health*, 100, 468–475. <http://dx.doi.org/10.2105/AJPH.2008.152942>
- Bradford, J., Ryan, C., & Rothblum, E. D. (1994). National Lesbian Health Care Survey: Implications for mental health care. *Journal of Consulting and Clinical Psychology*, 62, 228–242. <http://dx.doi.org/10.1037/0022-006X.62.2.228>
- Cain, R. (1991). Stigma management and gay identity development. *Social Work*, 36, 67–73.

- Cole, S. W., Kemeny, M. E., Taylor, S. E., & Visscher, B. R. (1996). Elevated physical health risk among gay men who conceal their homosexual identity. *Health Psychology, 15*, 243–251. <http://dx.doi.org/10.1037/0278-6133.15.4.243>
- Calzo, J. P., Antonucci, T. C., Mays, V. M., & Cochran, S. D. (2011). Retrospective recall of sexual orientation identity development among gay, lesbian, and bisexual adults. *Developmental Psychology, 47*(6), 1658–1673. <http://dx.doi.org/10.1037/a0025508>
- D’Augelli, A. R., & Grossman, A. H. (2001). Disclosure of sexual orientation, victimization, and mental health among lesbian, gay, and bisexual older adults. *Journal of Interpersonal Violence, 16*, 1008–1027. <http://dx.doi.org/10.1177/088626001016010003>
- D’Augelli, A. R., Hershberger, S. L., & Pilkington, N. W. (1998). Lesbian, gay, and bisexual youth and their families: Disclosure of sexual orientation and its consequences. *American Journal of Orthopsychiatry, 68*, 361–371. <http://dx.doi.org/10.1037/h0080345>
- Feinstein, B. A., Goldfried, M. R., & Davila, J. (2012). The relationship between experiences of discrimination and mental health among lesbians and gay men: An examination of internalized homonegativity and rejection sensitivity as potential mechanisms. *Journal of Consulting and Clinical Psychology, 80*, 917–927. <http://dx.doi.org/10.1037/a0029425>
- Floyd, F. J., & Bakeman, R. (2006). Coming-out across the life course: Implications of age and historical context. *Archives of Sexual Behavior, 35*, 287–296. <http://dx.doi.org/10.1007/s10508-006-9022-x>
- Frable, D. E., Wortman, C., & Joseph, J. (1997). Predicting self-esteem, well-being, and distress in a cohort of gay men: The importance of cultural stigma, personal visibility, community networks, and positive identity. *Journal of Personality, 65*, 599–624. <http://dx.doi.org/10.1111/j.1467-6494.1997.tb00328.x>
- Friedman, R. C. (1999). Homosexuality, psychopathology, and suicidality. *Archives of General Psychiatry, 56*, 887–888. <http://dx.doi.org/10.1001/archpsyc.56.10.887>
- Frisch, M. B. (1994). *Quality of Life Inventory*. Minneapolis, MN: Pearson Assessments.
- Frisch, M. B., Clark, M. P., Rouse, S. V., Rudd, M. D., Paweleck, J. K., Greenstone, A., & Kopplin, D. A. (2005). Predictive and treatment validity of life satisfaction and the quality of life inventory. *Assessment, 12*, 66–78. <http://dx.doi.org/10.1177/1073191104268006>
- Frisch, M. B., Cornell, J., Villanueva, M., & Retzlaff, P. (1992). Clinical validation of the Quality of Life Inventory: A measure of life satisfaction for use in treatment planning and outcome assessment. *Psychological Assessment, 4*, 92–101. <http://dx.doi.org/10.1037/1040-3590.4.1.92>
- Frost, D. M., Parsons, J. T., & Nanin, J. E. (2007). Stigma, concealment and symptoms of depression as explanations for sexually transmitted infections among gay men. *Journal of Health Psychology, 12*, 636–640. <http://dx.doi.org/10.1177/1359105307078170>
- Hatzenbuehler, M. L., Nolen-Hoeksema, S., & Dovidio, J. (2009). How does stigma “get under the skin”? The mediating role of emotion regulation. *Psychological Science, 20*, 1282–1289. <http://dx.doi.org/10.1111/j.1467-9280.2009.02441.x>
- Herek, G. M. (2003). Why tell if you’re not asked? Self-disclosure, intergroup contact, and heterosexuals’ attitudes toward lesbians and gay men. In L. D. Garnets & D. C. Kimmel (Eds.), *Psychological perspectives on lesbian, gay, and bisexual experiences* (pp. 270–298). New York, NY: Columbia University Press.
- Herek, G. M. (2009). Hate crimes and stigma-related experiences among sexual minority adults in the United States: Prevalence estimates from a national probability sample. *Journal of Interpersonal Violence, 24*, 54–74. <http://dx.doi.org/10.1177/0886260508316477>

- Herek, G. M., Cogan, J. C., Gillis, J. R., & Glunt, E. K. (1998). Correlates of internalized homophobia in a community sample of lesbians and gay men. *Journal of the Gay & Lesbian Medical Association*, 2, 17–25.
- Hershberger, S. L., Pilkington, N. W., & D’Augelli, A. R. (1997). Predictors of suicide attempts among gay, lesbian, and bisexual youth. *Journal of Adolescent Research*, 12, 477–497. <http://dx.doi.org/10.1177/0743554897124004>
- Huebner, D. M., & Davis, M. C. (2005). Gay and bisexual men who disclose their sexual orientations in the workplace have higher workday levels of salivary cortisol and negative affect. *Annals of Behavioral Medicine*, 30, 260–267. http://dx.doi.org/10.1207/s15324796abm3003_10
- Leary, M. R. (1983). A brief version of the Fear of Negative Evaluation Scale. *Personality and Social Psychology Bulletin*, 9, 371–375. <http://dx.doi.org/10.1177/0146167283093007>
- Lucas, R. E., Diener, E., & Suh, E. (1996). Discriminant validity of well-being measures. *Journal of Personality and Social Psychology*, 71, 616–628. <http://dx.doi.org/10.1037/0022-3514.71.3.616>
- McKirnan, D. J., & Peterson, P. L. (1989). Psychosocial and cultural factors in alcohol and drug abuse: An analysis of a homosexual community. *Addictive Behaviors*, 14, 555–563. [http://dx.doi.org/10.1016/0306-4603\(89\)90076-2](http://dx.doi.org/10.1016/0306-4603(89)90076-2)
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129, 674–697. <http://dx.doi.org/10.1037/0033-2909.129.5.674>
- Meyer, I. H., Dietrich, J., & Schwartz, J. (2008). Lifetime prevalence of mental disorders and suicide attempts in diverse lesbian, gay, and bisexual populations. *American Journal of Public Health*, 98, 1004–1006.
- Mohr, J., & Fassinger, R. (2000). Measuring dimensions of lesbian and gay male experience. *Measurement and Evaluation in Counseling and Development*, 33, 66–90.
- Mohr, J. J., & Fassinger, R. E. (2003). Self-acceptance and self-disclosure of sexual orientation in lesbian, gay, and bisexual adults: An attachment perspective. *Journal of Counseling Psychology*, 50, 482–495. <http://dx.doi.org/10.1037/0022-0167.50.4.482>
- Morales-Knight, L. F. (2010). [Masters Equivalency Research Project]. Unpublished raw data.
- Morris, J. F., Waldo, C. R., & Rothblum, E. D. (2001). A model of predictors and outcomes of outness among lesbian and bisexual women. *American Journal of Orthopsychiatry*, 71, 61–71. <http://dx.doi.org/10.1037/0002-9432.71.1.61>
- Pachankis, J. E. (2007). The psychological implications of concealing a stigma: A cognitive-affective-behavioral model. *Psychological Bulletin*, 133, 328–345. <http://dx.doi.org/10.1037/0033-2909.133.2.328>
- Pachankis, J. E., & Bernstein, L. B. (2012). An etiological model of anxiety in young gay men: From early stress to public self-consciousness. *Psychology of Men & Masculinity*, 13, 107–122. <http://dx.doi.org/10.1037/a0024594>
- Pachankis, J. E., & Goldfried, M. R. (2010). Expressive writing for gay-related stress: Psychosocial benefits and mechanisms underlying improvement. *Journal of Consulting and Clinical Psychology*, 78, 98–110. <http://dx.doi.org/10.1037/a0017580>
- Pachankis, J. E., Goldfried, M. R., & Ramrattan, M. E. (2008). Extension of the rejection sensitivity construct to the interpersonal functioning of gay men. *Journal of Consulting and Clinical Psychology*, 76, 306–317. <http://dx.doi.org/10.1037/0022-006X.76.2.306>
- Pérez-Benitez, C., O’Brien, W. H., Carels, R. A., Gordaon, A. K., & Chiros, C. E. (2007). Cardiovascular correlates of disclosing homosexual orientation. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 23, 141–152. <http://dx.doi.org/10.1002/smi.1123>

- Rodebaugh, T. L., Woods, C. M., Thissen, D. M., Heimberg, R. G., Chambless, D. L., & Rapee, R. M. (2004). More information from fewer questions: The factor structure and item properties of the original and Brief Fear of Negative Evaluation Scale. *Psychological Assessment*, 16, 169–181. <http://dx.doi.org/10.1037/1040-3590.16.2.169>
- Rosario, M., Hunter, J., Maguen, S., Gwadz, M., & Smith, R. (2001). The coming-out process and its adaptational and health-related associations among gay, lesbian, and bisexual youths: Stipulation and exploration of a model. *American Journal of Community Psychology*, 29, 133–160. <http://dx.doi.org/10.1023/A:1005205630978>
- Ross, M. W. (1990). The relationship between life events and mental health in homosexual men. *Journal of Clinical Psychology*, 46, 402–411. [http://dx.doi.org/10.1002/1097-4679\(199007\)46:4<402::AID-JCLP2270460405>3.0.CO;2-Q](http://dx.doi.org/10.1002/1097-4679(199007)46:4<402::AID-JCLP2270460405>3.0.CO;2-Q)
- Ryan, C., Russell, S. T., Huebner, D., Diaz, R., & Sanchez, J. (2010). Family acceptance in adolescence and the health of LGBT young adults. *Journal of Child and Adolescent Psychiatric Nursing*, 23, 205–213. <http://dx.doi.org/10.1111/j.1744-6171.2010.00246.x>
- Sarason, I. G., Sarason, B. R., Shearin, E. N., & Pierce, G. R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships*, 4, 497–510. <http://dx.doi.org/10.1177/0265407587044007>
- Savin-Williams, R. C., & Diamond, L. M. (2000). Sexual identity trajectories among sexual-minority youths: Gender comparisons. *Archives of Sexual Behavior*, 29, 607–627. <http://dx.doi.org/10.1023/A:1002058505138>
- Savin-Williams, R. C., & Vrangalova, Z. (2013). Mostly heterosexual as a distinct sexual orientation group: A systematic review of the empirical evidence. *Developmental Review*, 33, 58–88. <http://dx.doi.org/10.1016/j.dr.2013.01.001>
- Schrimshaw, E. W., Siegel, K., Downing, M. J., & Parsons, J. T. (2013). Disclosure and concealment of sexual orientation and the mental health of non-gay-identified, behaviorally bisexual men. *Journal of Consulting and Clinical Psychology*, 81, 141–153. <http://dx.doi.org/10.1037/a0031272>
- Ullrich, P. M., Lutgendorf, S. K., & Stapleton, J. T. (2003). Concealment of homosexual identity, social support and CD4 cell count among HIV-seropositive gay men. *Journal of Psychosomatic Research*, 54, 205–212. [http://dx.doi.org/10.1016/S0022-3999\(02\)00481-6](http://dx.doi.org/10.1016/S0022-3999(02)00481-6)
- Ullrich, P. M., Lutgendorf, S. K., Stapleton, J. T., & Horowitz, M. (2004). Self-regard and concealment of homosexuality as predictors of CD4+ cell count over time among HIV Seropositive gay men. *Psychology & Health*, 19, 183–196. <http://dx.doi.org/10.1080/08870440310001652704>
- Vaughan, M. D., & Waehler, C. A. (2010). Coming out growth: Conceptualizing and measuring stress-related growth associated with coming out to others as a sexual minority. *Journal of Adult Development*, 17, 94–109. <http://dx.doi.org/10.1007/s10804-009-9084-9>
- Vrangalova, Z., & Savin-Williams, R. C. (2010). Correlates of same-sex sexuality in heterosexually identified young adults. *Journal of Sex Research*, 47, 92–102. <http://dx.doi.org/10.1080/00224490902954307>
- 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, 1063–1070. <http://dx.doi.org/10.1037/0022-3514.54.6.1063>
- Weeks, J. W., Heimberg, R. G., Fresco, D. M., Hart, T. A., Turk, C. L., Schneier, F. R., & Liebowitz, M. R. (2005). Empirical validation and psychometric evaluation of the Brief Fear of Negative Evaluation Scale in patients with social anxiety disorder. *Psychological Assessment*, 17, 179–190. <http://dx.doi.org/10.1037/1040-3590.17.2.179>

- Wells, J. W., & Kline, W. B. (1987). Self-disclosure of homosexual orientation. *The Journal of Social Psychology*, 127, 191–197. <http://dx.doi.org/10.1080/00224545.1987.9713679>
- Yoshino, K. (2006). *Covering: The hidden assault on our civil rights*. New York: Random House.

Appendix A: Nebraska Outness Scale

(NOS-D) What percent of the people in this group do you think are aware of your sexual orientation (meaning they are aware of whether you consider yourself straight, gay, etc.)?

	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Members of your immediate family (e.g., parents and siblings)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Members of your extended family (e.g., aunts, uncles, grandparents, cousins)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
People you socialize with (e.g., friends and acquaintances)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
People at your work/school (e.g., coworkers, supervisors, instructors, students)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Strangers (e.g., someone you have a casual conversation with in line at the store)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

(NOS-C) How often do you avoid talking about topics related to or otherwise indicating your sexual orientation (e.g., not talking about your significant other, changing your mannerisms) when interacting with members of these groups?

	Never					Half of the Time					Always
Members of your immediate family (e.g., parents and siblings)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Members of your extended family (e.g., aunts, uncles, grandparents, cousins)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
People you socialize with (e.g., friends and acquaintances)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
People at your work/school (e.g., coworkers, supervisors, instructors, students)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Strangers (e.g., someone you have a casual conversation with in line at the store)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐