ARTICLES

Measuring Dimensions of Lesbian and Gay Male Experience

JONATHAN MOHR
RUTH FASSINGER

This article describes the development of new scales for assessing identity and outness in lesbians and gay men. Relevant measurement issues are reviewed.

Over the past several decades, sexual orientation research has featured an increasing focus on manifestations of antigay stigma in the lives of lesbian and gay male (LG) individuals (Garnets & Kimmel, 1993). This change has reflected a dramatic shift in psychological theories of sexual orientation wherein the unique difficulties faced by LG people are viewed as the result of societal intolerance and marginalization rather than pathology inherent in same-sex attractions. For example, problems such as identity confusion and internalized homonegativity (i.e., negative beliefs and feelings about one's sexual orientation) are now generally thought to be part of a normative developmental process in which LG individuals must negotiate their same-sex attractions in an oppressive, unsupportive context (Fassinger, 1991; Gonsiorek & Rudolph, 1992). From this viewpoint, LG people must make ongoing decisions about the degree to which they should reveal their sexual orientation in spheres (e.g., family of origin, work, church) where self-disclosure may lead to interpersonal rejection and other negative consequences.

This perspective on sexual orientation has led theorists to identify variables that are uniquely relevant to LG people, but relatively little work has been devoted to assessing these constructs. Thus, researchers who wish to use quantitative methods to study these variables face substantial challenges regarding measurement. The relative lack of instrumentation has led some researchers to develop study-specific measures for which information about item content, validity, or factor structure is not often published (e.g., Berger, 1990; Hershberger & D'Augelli, 1995; Kahn, 1991; Meyer, 1995; Miranda & Storms, 1989; Otis & Skinner, 1996; Waldo, 1999). Such an approach is understandable given researchers' needs for instruments, yet there is a clear need for published scales that assess aspects of LG experience.

Jonathan Mohr is a doctoral student, and Ruth Fassinger is an associate professor, both in the Counseling Psychology Program at University of Maryland at College Park. *This study was supported in part by a Donald Hood Student Research Award from the Association for Assessment in Counseling and a Student Research Grant from the Society for the Scientific Study of Sexuality.* *Correspondence regarding this article should be sent to Jonathan Mohr, Department of Psychology, University of Maryland, College Park, MD 20742 (e-mail: jmohr@psyc.umd.edu).*

We conducted the present study to provide preliminary psychometric data on two new self-report measures designed to assess dimensions of the lives of LG individuals. We developed these scales as part of a large national study of same-sex couples. Our focus was on dimensions related to LG identity and levels of disclosure regarding one's sexual orientation. These areas have received much attention by theorists and clinicians (Bohan, 1996; Hancock, 1995), but our literature review indicated that the corresponding measurement issues have received relatively little consideration. Furthermore, we discovered that many of the published scales related to our areas of interest had been created for either lesbians or gay men, but not both groups. Indeed, the published measures of internalized homonegativity that we found were created for gay and bisexual men only; thus, many of the items were inappropriate for lesbians. The purpose of this article is to describe the development of the two new scales. First, however, we provide a basis for our instrument development process by reviewing recent efforts to conceptualize and assess phenomena related to LG experience.

CONCEPTUALIZATION AND MEASUREMENT OF VARIABLES RELATED TO LG EXPERIENCE

Quantitative research on LG identity has featured diverse approaches for conceptualizing and measuring identity-related variables. An important distinction among these approaches is whether identity has been conceptualized from a stage perspective or a dimension perspective. The stage perspective is grounded in an explicitly developmental view of LG identity wherein the process of identity formation is characterized as a series of phases through which LG individuals achieve awareness and acceptance of their sexual orientation (McCarn & Fassinger, 1996). For example, Fassinger and her associates have formulated a model that includes four phases of identity development: awareness, exploration, deepening–commitment, and internalization–synthesis (Fassinger & Miller, 1996; McCarn & Fassinger, 1996). Movement into a new phase reflects individuals' increasing ability to integrate in a positive manner their same-sex attractions and self-concept or to internalize their identity as members of an oppressed minority group. Given the necessarily complex nature of identity, identity stages are generally conceptualized as multidimensional constructs that involve individuals' feelings and beliefs about their own sexual orientation, other LG people, and people of different sexual orientations. Several scales have been developed to assess identity stage (e.g., Brady & Busse, 1994; Cass, 1984; Fassinger, 1997; Fassinger & McCarn, 1997). Although preliminary data on these scales provide initial support for their use (Brady & Busse, 1994; Cass, 1984; Fassinger & Miller, 1996; Levine, 1997; McCarn, 1991), *longitudinal data have not yet been collected to test the developmental* theory on which the measures are based.

Another perspective on measurement of LG identity, which is the main topic of this article, focuses on single dimensions of experience that are presumed to be relevant and meaningful for LG individuals throughout identity development. Such dimensions include intrapersonal variables (e.g., internalized homonegativity; confusion about one's sexual orientation identity), interpersonal variables (e.g., disclosure of one's sexual orientation, participation in LG community activities), and variables related to specific events (e.g., experience of antigay violence, length of time since first self-labeling as LG). Although some of these variables are presumed to be indicators of the degree to which

a positive LG identity has been achieved, others are not necessarily indicators of a positive or negative identity. For example, high levels of internalized homonegativity are generally viewed as a sign of negative identity (Shidlo, 1994), but low levels of disclosure regarding one's sexual orientation are not necessarily indicative of negative identity (Berger, 1990; Harry, 1993; McCarn & Fassinger, 1996).

Although single dimensions of LG experience have intrinsic interest, they can also be thought of as building blocks of larger theories regarding the psychological functioning of LG individuals. For example, Hershberger and D'Augelli (1995) tested a model of mental health and suicidal behavior for lesbian, gay, and bisexual youths using dimensions such as family support regarding one's sexual orientation, self-acceptance, and antigay victimization. Similarly, Waldo (1999) tested a model of heterosexism in the workplace that included such dimensions as perceptions of the organizational climate for LG employees, openness regarding one's sexual orientation, and experience of workplace heterosexism.

Single dimensions of LG experience may not be as conceptually complex as multidimensional stages of identity development, yet careful thought is still necessary to conceptualize these dimensions in a manner that reflects their relevance across diverse LG populations. In the remainder of this review, we focus on measurement of dimensions most related to our areas of focus: internalized homonegativity and disclosure of sexual orientation.

Shidlo (1994) identified a number of important conceptual issues in the measurement of internalized homonegativity. For example, he noted that some self-report measures of internalized homonegativity heavily emphasize items reflecting the desire to change one's sexual orientation (e.g., Bell & Weinberg, 1978; Martin & Dean, 1987). Because of the extreme nature of this item content, such measures may have only limited relevance for populations of LG individuals with low to moderate levels of internalized homonegativity. Shidlo revised the Nungesser Homosexual Attitudes Inventory (NHAI; Nungesser, 1983) to create a measure of internalized homonegativity for gay men that assesses the full range of the construct. The revised NHAI includes 39 items that assess reactions to one's own sexual orientation, general attitudes regarding homosexuality, and fear of disclosure regarding one's sexual orientation. Validity was evidenced by the negative correlations of internalized homonegativity with self-esteem and social support and positive correlations with loneliness and psychological distress. Moreover, individuals high in internalized homonegativity were more likely than others to have few gay social supports and to have little overlap between gay and nongay social networks. As Shidlo noted, however, the inclusion of items on fear of disclosure may be questionable because fear does not always reflect internalized homonegativity (e.g., it can also indicate realistic expectations of negative consequences associated with disclosure). Thus, despite the promising data on this measure, further refinement of the NHAI would probably improve the degree to which it accurately assesses internalized homonegativity.

Shidlo (1994) observed other ways in which the conceptualization of internalized homonegativity has significant implications for measurement of the construct. For example, this construct has been defined by some researchers as a phenomenon that has both conscious and unconscious components (e.g., Malyon, 1982; Margolies, Becker, & Jackson-Brewer, 1987). To date, most measures of internalized homonegativity have been created to assess consciously held beliefs and feelings regarding one's sexual orientation, but these measures may not detect unconscious manifestations of this construct. Thus, as

Shidlo suggested, projective tests may contribute to the measurement of internalized homonegativity. Another possible strategy would be to measure manifestations of unconscious internalized homonegativity that are accessible to consciousness. For example, Margolies et al. (1987) described forms *in which unconscious internalized homonegativity may be expressed, including* fear of discovery, rejection and denigration of heterosexual individuals, and feelings of superiority toward heterosexual individuals. Thus, the study of LG individuals' self-reports regarding these factors may offer insight into the dynamics of unconscious homonegativity. However, reactions such as fear of discovery and rejection by heterosexual individuals may be indicative of factors other than internalized homonegativity. Nevertheless, such reactions suggest the existence of an adaptation to minority status that may have significant implications for psychosocial functioning and thus deserve research attention.

The need to carefully conceptualize constructs related to LG experience is also evident in past efforts to assess the degree to which LG individuals have disclosed their sexual orientation to others (i.e., "outness"). One important issue concerns the question "Out to whom?" It is clear that outness can be assessed with regard to different spheres of life (e.g., family, friends, work, religious institution, general public), but the degree of interrelatedness among outness levels in different spheres has not been established. Thus, it is not certain whether outness should be considered unidimensional (i.e., general level of outness) or multidimensional (i.e., levels of outness in multiple spheres).

Researchers have taken both approaches. For example, Waldo (1999) combined items about level of disclosure in three spheres (i.e., workplace, "in general," and parents) to form a single outness scale. In support of this strategy, scores on the scale exhibited adequate internal consistency and correlated in predicted ways with other measures (e.g., organizational tolerance for heterosexism). Alternatively, Berger (1990) treated outness as a multidimensional construct and created separate scales for measuring disclosure to distant others and disclosure to significant others. This strategy was supported by the different relations of the two scales with dependent variables. One way to explain the apparent usefulness of both unidimensional and multidimensional conceptualizations of outness is to view the construct as having a two-level factor structure. From this perspective, outness levels in one sphere of functioning may be only moderately related to levels in another sphere of functioning, but outness levels in all of these spheres taken together are indicators of a general level of outness.

Another important issue in the conceptualization of outness is the need to establish criteria for determining whether disclosure has occurred. Some researchers have conceptualized disclosure as an event in which LG individuals verbally communicate their sexual orientation to others (e.g., Holtzen, Kenny, & Mahalik, 1995). This approach may not assess the full range of the construct, however, because it is possible for individuals to disclose their sexual orientation nonverbally in both subtle and unsubtle ways. Thus, it may be useful to find methods for assessing forms of disclosure that range from subtle nonverbal hints to obvious nonverbal suggestions to direct verbal declarations. In our study, we extended an approach used by Savin-Williams (1989) in his study of coming out to parents among LG youths. Degree of outness to a variety of individuals was indicated by choosing one of four responses: "definitely knows and we have talked about it," "definitely knows but we have never talked about it," "probably knows or suspects," and "does not know or suspect."

CURRENT STUDY

Scales assessing dimensions of LG experience offer researchers flexible tools with which to test, modify, and generate theory regarding the psychological functioning of LG individuals. For this reason, we believe that measurement issues in this area deserve attention and visibility. As our discussion suggests, however, much work remains with regard to identifying, conceptualizing, and measuring important dimensions. The current study makes a contribution to the literature by introducing two new scales measuring dimensions of LG experience: the Lesbian and Gay Identity Scale (LGIS) and the Outness Inventory (OI).

We report the results of exploratory factor analyses (EFAs) and confirmatory factor analyses (CFAs) of the two scales. Preliminary validity evidence is provided through correlations of the scales with measures of self-esteem, identification with LG communities, interaction with heterosexual individuals, stage of LG identity, length of time in the identity development process, and personal involvement in progay religious organizations (versus nonsupportive religious organizations).

METHOD

Item Development

The item generation process for each of the two scales began with a review of relevant literature and careful consideration of our constructs of interest. Content validity was assessed by two doctoral-level graduate students in psychology (one lesbian and one bisexual woman, both of whom were White) and one master's-level graduate student in counseling (an Asian American heterosexual woman), all of whom were knowledgeable about constructs related to LG identity development. These three individuals were asked to review the preliminary item pools to indicate relevant content areas that were not covered as well as to identify confusing or poorly worded items. We revised the item pools after receiving feedback from these individuals. Similar feedback was then elicited from nine racially diverse undergraduate students on our research team; the subsequent revisions yielded the final item pools. Information unique to the two scales is discussed below.

LGIS. We wanted this scale to assess a wide range of beliefs and feelings related to LG identity. Our review of the theoretical and empirical literature in this area led us to identify several relevant constructs: internalized homonegativity, confusion about one's sexual orientation, belief in the superiority of LG people relative to heterosexual people, fear of judgment from others regarding one's sexual orientation, desire to hide one's sexual orientation, and perception of one's identity development process as having been difficult. We generated most of the items, although we included eight items from the NHAI (Nungesser, 1983) that we believed would measure internalized homonegativity in both lesbians and gay men. Items for men and women were identical, except for references to the respondents' sexual orientation (e.g., "I'm not totally sure that I'm a lesbian" and "I'm not totally sure that I'm a gay man"). Because of our interest in same-sex couples, some items referred to respondents' romantic relationships (e.g., "I keep careful control over who knows about my relationship"). The final item pool consisted of 40 items that were rated on a 7-point scale, from *disagree strongly* (1) to *agree strongly* (7).

OI. Our goal was to measure the degree to which respondents' sexual orientation was known by or openly talked about with people in different spheres of the respondents' lives. Our final item pool consisted of 11 roles: mother, father, siblings, extended family and relatives, old heterosexual friends, new heterosexual friends, strangers, work peers, work supervisors, members of one's religious community, and leaders of one's religious community. As we noted earlier, we believe that a sensitive measure of outness should be able to assess more than overt verbal disclosure of one's sexual orientation. To accomplish this, we designed the following 7-point rating scale: 1 = *person definitely does not know about your sexual orientation status;* 2 = *person might know about your sexual orientation status, but it is never talked about;* 3 = *person probably knows about your sexual orientation status, but it is never talked about;* 4 = *person probably knows about your sexual orientation status, but it is rarely talked about;* 5 = *person definitely knows about your sexual orientation status, but it is rarely talked about;* 6 = *person definitely knows about your sexual orientation status, and it is sometimes talked about;* 7 = *person definitely knows about your sexual orientation status, and it is openly talked about.*

Participants

Participants were 590 lesbians and 414 gay men who were 18–69 years old ($M = 36.62$, $SD = 9.47$). The majority of the sample was White (86%); the remainder of the sample consisted of individuals who were Asian or Pacific Islander (1%), Black (3%), Hispanic (3%), Native American (1%), biracial or multiracial (4%), and "other" race or ethnicity (2%). The sample included a range of individual income levels: less than $15,000 (17%); $15,000–$24,999 (14%); $25,000–$34,999 (20%); $35,000–$44,999 (18%); $45,000–$54,999 (12%); and greater than $55,000 (19%). A range of educational levels was represented, although the majority of the sample had received at least a bachelor's degree: high school (2%), technical–vocational training (1%), some college (14%), associate's degree (6%), bachelor's degree (31%), and graduate and professional degree (46%). Participants were from many regions of the United States: Northeast (16%), Midwest (21%), Mid-Atlantic (12%), Southeast (12%), Southwest (8%), West Coast (30%). The remaining 1% of the sample was from Canada. Participants described their communities as rural (11%), suburban (39%), and urban (50%). All respondents had been in same-sex romantic relationships for at least 3 months at the time of participation.

The sample described above was used for the development of the LGIS, but a subsample was used for the development of the OI because not all items on this measure were relevant for all respondents. Specifically, a subsample of 232 lesbians and 179 gay men responded to the OI items related to outness in one's religious organization. Although we had considered using only data from individuals who had responded to the entire item pool for the OI, we realized that this strategy would limit the generalizability of the factor analyses to individuals who attended a religious organization. We decided to use the full sample in developing the OI except for the two items related to outness in religious organizations, for which we used data from the 411 LG individuals described above.

Procedure

The study was announced in several venues. An electronic mail (e-mail) message was sent to LG professional organizations. Fliers were posted at LG-oriented businesses in several major East Coast cities. An advertisement was

placed in the major LG newspaper in the Washington, DC, metropolitan area for 2 weeks. Moreover, participants were recruited at the annual Black Pride event in Washington, DC, an event that reportedly attracts geographically diverse LG people of color. In all of these cases, the study was described as an investigation of factors unique to LG couples. LG individuals interested in participating were instructed to contact the researchers by e-mail or telephone (except for individuals recruited at the Black Pride event, who were given surveys in person). For purposes of the larger study, these prospective participants were screened to make sure that they were in a same-sex romantic relationship of at least 3 months' duration. Two surveys and two return envelopes were mailed to each couple who fulfilled this criterion and expressed a desire to participate.

Participants were asked to read a statement indicating that the risks of participation were minimal and that return of the survey signified informed consent. Because the survey contained measures assessing potentially sensitive areas of relationship functioning (e.g., commitment, satisfaction), the survey instructions directed participants to complete the survey in a setting separate from their partners and to seal it in the mailing envelope immediately afterwards. To maximize confidentiality of survey data, we asked for no identifying information on the survey (e.g., name, mailing address, e-mail address). Instead, surveys were coded so that data from romantic partners could be matched. Participants were informed that their names and identification codes were matched in a secure database that did not contain any of the survey data.

A total return rate of 49% was achieved. Most of the sample (58%) learned of the study from an e-mail solicitation. The remainder of the sample was recruited from the following sources: flier (1%), advertisement (3%), word-of-mouth (21%), and other (17%). Many participants who indicated a recruitment source of "other" noted that they had learned of the study at the Black Pride event.

Measures

Survey packets contained a variety of scales in addition to the LGIS and OI, including measures of romantic relationship functioning, self-esteem, LG identity, and cultural identity. Demographic information was also collected. In this section, we describe only those instruments included in the present study that were used to provide validity evidence for the two new scales. Findings from this study have not been reported elsewhere. Unless indicated otherwise, scales were calculated by reverse scoring the appropriate items and then averaging items.

Self-esteem. The Rosenberg Self-Esteem Scale (SES; Rosenberg, 1965) consists of 10 items that assess global attitudes about one's feelings of self-worth (e.g., "I feel that I have a number of good qualities"). Items are rated on a 5-point scale ranging from *disagree strongly* (1) to *agree strongly* (5). High scores on the SES reflect high levels of self-esteem. In many studies, scores on the SES have evidenced high internal consistency reliability estimates and have correlated with measures of personality and psychological functioning in theoretically predicted ways (Crandall, 1973). Self-esteem, as measured by the SES, was found to be negatively correlated with internalized homonegativity in a sample of gay men (Shidlo, 1994). In the current sample, the internal consistency reliability estimate for SES scores was .87.

LG identity phase. The Lesbian Identity Scale (LIS; Fassinger & McCarn, 1997) and Gay Identity Scale (GIS; Fassinger, 1997) were used to assess respon-

dents' phase of LG identity formation according to the identity model of Fassinger and her colleagues described earlier (Fassinger & Miller, 1996; McCarn & Fassinger, 1996). We used two of the eight subscales. First, we used the subscale that assesses the internalization–synthesis phase of individual sexual identity development. Individuals in this phase experience self-acceptance regarding their same-sex desires, and they have integrated these desires into their lives and self-concepts (e.g., LIS: "I am at the point where I feel a deep contentment about my love for other women"). In the current study, coefficient alpha for subscale scores was .68 for lesbians and .64 for gay men. We also used the subscale assessing the deepening–commitment phase of group membership identity development. Individuals in this phase have developed a deepening identification with LG cultures, along with an acute awareness of their membership in an oppressed minority group that may lead some individuals to reject heterosexual society (e.g., GIS: "I have recently been undergoing a 'gay liberation' and becoming involved in gay culture"). In the current study, coefficient alpha for subscale scores was .69 for lesbians and .62 for gay men. These internal consistency estimates are low, probably because the constructs are multidimensional (Cortina, 1993).

Years in LG identity process. We wanted to have an index of the amount of time participants had been in the LG identity process. Participants were asked for the ages at which four events (identified by Garnets & Kimmel, 1993, as milestones in LG identity development) occurred: age of first romantic attraction to another person of the same sex, age of first sexual encounter with another person of the same sex, age of first self-labeling as LG, and age of first same-sex relationship. These milestones were subtracted from participants' current ages and then averaged to form a scale that assessed years since milestones. Scores on this scale had a coefficient alpha of .85 in our study.

Same-group and other-group orientation. We used the Multigroup Ethnic Identity Measure (Phinney, 1992) to assess participants' degree of identification with LG communities (i.e., same-group orientation; SGO) and degree of interaction with heterosexuals (i.e., other-group orientation; OGO). This instrument was designed for use with members of minority groups to measure the degree of SGO and OGO; items are worded to reflect the specific minority group that is being studied. Responses to the 20 items are made on a 4-point scale (1 = *strongly disagree*, 4 = *strongly agree*). The scale that measures SGO consists of 14 items (e.g., "I have spent time trying to find out more about the lesbian/gay/bisexual community"); scores on the scale had an internal consistency estimate of .88 in the current study. The scale that assesses OGO consists of 6 items (e.g., "I often spend time with straight people"); scores on the scale had an internal consistency estimate of .80 in this study. Degree of SGO has been found to be significantly correlated with self-esteem for samples of ethnic and racial minority high school students and college students. This correlation was not significant for a sample of White students from a White-majority school, but it was significant for a small sample of White students who were enrolled in a school with a White minority. The correlation between SGO and self-esteem was also observed in a study of lesbian, gay, bisexual, and transgender students (H. Reist, personal communication, January 7, 1997). In another study, a positive association was found between OGO and positive attitudes regarding bisexuality in a sample of lesbians (Mohr & Rochlen, 1999).

Support from religious organization. The demographic questionnaire included an item about respondents' religious lives. For this item, participants were

asked to indicate whether their religious organization or community was fully supportive, somewhat supportive, or not at all supportive of LG relationships. We created a variable to distinguish between those participants who indicated that they belonged to a fully supportive religious organization and those whose religious organizations were either somewhat or not at all supportive. (We created this variable because of the relatively low number of participants who rated their organizations as not at all supportive.) This variable was scored as "0" for participants who belonged to nonsupportive organizations and "1" for participants who belonged to supportive organizations.

RESULTS

Overview of Factor Analyses

We performed principal components analyses on the LGIS and OI to select items for the final versions of the scales. We used the following procedure for each of the two scales. First, we randomly divided the sample so that three quarters of the sample was used for the EFAs; the remaining portion of the sample was used for the CFAs. Second, we conducted principal components analyses with varimax rotation for lesbians and gay men. These analyses were conducted using PROC FACTOR (SAS Institute, 1995). Although we expected the factors to be correlated, we used varimax rotation because of (a) the lack of compelling evidence that oblique solutions generally yield superior results and (b) the ease of interpreting orthogonal versus oblique solutions (Nunnally, 1978; Tinsley & Tinsley, 1987). After inspecting several factor solutions, we chose the solution that both appeared theoretically sound and offered the greatest amount of overlap between lesbians and gay men. Third, we selected items for the final versions of the scales. An item was chosen if, for both lesbians and gay men, it had a loading of at least .40 on one factor. Finally, using data from lesbians and gay men in the remaining one quarter sample, maximum-likelihood CFA was used to verify the factor structure of the scales. The factor structures identified by the EFAs were tested using CFA models in which the factors were allowed to correlate with one another. The CFAs were conducted using PROC CALIS (SAS Institute, 1995). Additional analyses unique to the development of each scale are described below.

Factor Analyses

LGIS. Principal components analyses of the LGIS were performed separately for the lesbian and gay male subsamples (i.e., a random subsample representing three quarters of the full sample) using a varimax rotation. For both groups, Kaiser's overall measure of sampling adequacy (MSA; Kaiser, 1974) indicated that the item correlation matrix was appropriate for factor analysis (for lesbians, MSA = .90; for gay men, MSA = .87). None of the individual items had an MSA value below .5; thus, all items were retained for the analysis (Hair, Anderson, & Tatham, 1998). For lesbians, the principal components analysis resulted in nine factors with eigenvalues greater than 1.0 that accounted for 60% of the item pool variance. For gay men, the analysis yielded 11 factors with eigenvalues greater than 1.0 that accounted for 61% of the variance. Inspection of the scree plots suggested the appropriateness of the 7-factor and 6-factor solutions for lesbians and gay men, respectively. We chose the 6-factor solution for both groups after studying factor solutions ranging from 6

through 11 factors. This number of factors offered good overlap among corresponding factors in the lesbian and gay male solutions, as well as a strong correspondence with the content areas that guided our item development process. The 6 factors accounted for 51% and 48% of the item pool variance for lesbians and gay men, respectively.

The procedure for item selection (described previously) led us to retain 27 of the 40 items. The scale and structure coefficients are presented in Table 1. The labels and interpretation of high scores on the subscales are as follows: (a) Need for Privacy (6 items; $\alpha = .81$) views own LG sexual orientation as private, highly personal information; carefully controls others' knowledge of own sexual orientation and fears negative consequences from a lack of control; (b) Need for Acceptance (5 items; $\alpha = .75$), is strongly affected by others' views of own LG sexual orientation; worried about and preoccupied with others' views of own sexual orientation; (c) Internalized Homonegativity (5 items; $\alpha = .79$), has negative views and feelings regarding own LG sexual orientation; favors heterosexuality over LG sexual orientations; (d) Difficult Process (5 items; $\alpha = .79$), perceives his or her identity development process as having been slow and difficult; (e) Identity Confusion (4 items; $\alpha = .77$), uncertain or confused about own sexual orientation; (f) Superiority (2 items; $\alpha = .65$), views heterosexual people as inferior to and less interesting than LG people. Subscale means, standard deviations, and coefficient alphas for lesbians, gay men, and the full sample are presented in Table 2; correlations among subscales for lesbians and gay men are presented in Table 3.

We used CFA to examine the degree to which data from the remaining one quarter sample ($n = 251$) offered an adequate fit to the structure of the revised LGIS. The factors identified in the EFA were defined as latent variables on which the corresponding items from the revised LGIS loaded. Because the factors were not hypothesized to be independent of one another, we allowed them to covary in the CFA model. As recommended by Tanaka (1993), we used multiple indicators to describe the degree to which the observed data fit our CFA model: the comparative fit index (CFI), Bentler-Bonnet nonnormed fit index (NNFI), and the goodness-of-fit index (GFI). We also inspected the results of the model chi-square test, although this test is known to be unacceptably conservative (Bollen, 1989). The CFI and NNFI both reached the minimum recommended value of .90 for goodness of fit (Tanaka, 1993), and the GFI was near this value (CFI = .91; NNFI = .90; GFI = .86), $\chi^2(309, N = 251) = 555.78$, $p < .001$. This analysis suggested that the observed data fit the structure of the revised LGIS reasonably well.

The moderate intercorrelations among some of the subscales suggested that the LGIS may have a second-order factor structure. We investigated the higher order structure of the LGIS using EFAs rather than CFAs because we had no a priori hypotheses regarding this structure. Using data from all participants, separate principal components analyses with varimax rotations were performed for lesbians and gay men. For lesbians, the principal components analysis resulted in 2 factors with eigenvalues greater than 1.0 that accounted for 57% of the variance in subscales. For gay men, the analysis yielded two factors with eigenvalues greater than 1.0 that accounted for 53% of the variance in subscales.

After inspecting the scree plots and eigenvalues of the third components (which were just under 1.0 for each group), we chose the 3-factor solutions. These solutions accounted for 72% and 69% of the variation in subscales for lesbians and gay men, respectively. For both groups, the first components were characterized by high loadings on Need for Privacy, Need for Acceptance, Internalized Homonegativity, and Difficult Process (see Table 4). All of these subscales mea-

TABLE 1

Lesbian and Gay Identity Scale Items and Structure Coefficients

Scale Name and Item	Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6	
	F	M	F	M	F	M	F	M	F	M	F	M
Need for Privacy												
I prefer to keep my relationship rather private.	0.78	0.69	–0.02	0.16	0.13	0.21	0.04	0.02	0.02	–0.02	0.02	0.13
I keep careful control over who knows about my relationship.	0.72	0.67	0.23	0.36	0.13	0.14	0.16	0.03	0.10	0.01	–0.09	–0.03
My private sexual behavior is nobody's business.	0.40	0.49	–0.30	–0.11	0.29	0.05	0.02	0.06	–0.13	0.02	–0.21	–0.24
If you are not careful about whom you come out to, you can get very hurt.	0.54	0.59	0.12	0.16	0.00	0.11	0.31	0.12	0.04	–0.08	0.01	0.04
I think very carefully before coming out to someone.	0.71	0.77	0.20	0.21	–0.04	0.08	0.21	0.02	0.06	–0.02	–0.13	0.06
My sexual orientation is a very personal and private matter.	0.71	0.74	–0.14	0.01	0.25	–0.06	0.01	–0.04	0.03	0.12	–0.09	–0.10
I prefer to act like friends rather than lovers with my partner when we're in public.[a]	0.59	0.41	0.19	0.42	0.18	0.14	–0.03	–0.04	0.09	0.11	0.03	–0.38
I generally feel safe being out of the closet these days.[a]	–0.42	–0.26	–0.45	–0.37	–0.12	–0.27	0.00	–0.04	–0.12	0.14	–0.14	–0.01
I worry about people finding out I'm a (lesbian/gay man).[a]	0.58	0.52	0.48	0.52	0.10	0.31	0.16	0.04	0.18	–0.02	–0.04	0.00
In public I try not to look too obviously (lesbian/gay).[a]	0.64	0.35	0.15	0.50	0.21	0.20	0.07	–0.08	0.10	0.11	0.03	–0.23
I'm embarassed to be seen in public with obviously gay people.[a]	0.50	0.39	0.24	0.37	0.25	0.23	–0.04	–0.06	0.06	0.07	0.10	–0.19
I feel comfortable expressing affection with my partner out in public.[a]	–0.18	–0.25	–0.45	–0.40	–0.22	0.00	0.03	–0.04	0.02	–0.07	0.17	0.46
Need for Acceptance												
I will never be able to accept my sexual orientation until all the people in my life have accepted me.	0.20	0.27	0.44	0.47	0.27	0.28	0.04	0.01	0.19	0.01	–0.05	0.19
I often worry whether others judge me for being (lesbian/gay).	0.25	0.19	0.71	0.64	0.13	0.12	0.17	0.29	0.12	0.05	–0.02	0.03
I can't feel comfortable knowing that others judge me negatively for being (lesbian/gay).	0.19	0.11	0.63	0.65	0.24	0.12	0.16	–0.06	0.05	0.10	–0.02	0.04
Being a (lesbian/gay man) makes me feel insecure around straight people.	0.15	0.23	0.60	0.57	0.04	0.18	0.16	0.09	–0.11	0.02	0.02	0.12
I think a lot about how my (lesbianism/gayness) affects the way people see me.	0.10	–0.15	0.55	0.57	0.07	0.05	0.13	0.22	0.05	0.00	0.04	0.10

(table continued on next page)

TABLE 1 (Continued)

Lesbian and Gay Identity Scale Items and Structure Coefficients

Scale Name and Item	Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6	
	F	M	F	M	F	M	F	M	F	M	F	M
Need for Acceptance (Continued)												
I find myself preoccupied with trying to decide whom I should come out to.[a]	0.48	0.45	0.43	0.43	–0.17	–0.01	0.19	0.13	0.12	0.14	0.09	0.10
I have made peace with the fact that there will always be people in my life who do not approve of my sexual orientation.[a]	0.09	0.09	–0.53	–0.38	–0.09	–0.11	0.05	–0.11	–0.20	–0.10	0.05	–0.07
Internalized Homonegativity												
I would rather be straight if I could.	0.17	0.11	0.14	0.08	0.67	0.76	0.28	0.05	0.22	0.16	0.06	–0.03
I am glad to be a (lesbian/gay man). (R)	–0.19	–0.12	–0.17	–0.20	–0.64	–0.76	–0.11	–0.05	–0.27	–0.16	0.10	0.03
Homosexual lifestyles are not as fulfilling as heterosexual lifestyles.	0.08	0.00	0.04	0.26	0.56	0.40	0.00	–0.06	–0.02	0.15	0.06	0.11
I'm proud to be a part of the LGB community. (R)	–0.20	–0.11	–0.25	–0.11	–0.53	–0.53	0.10	–0.06	–0.19	0.02	0.19	0.11
I wish I were heterosexual.	0.14	0.14	0.12	0.09	0.78	0.80	0.15	0.03	0.23	0.16	0.01	0.01
Whenever I think a lot about being a (lesbian/gay man), I feel critical about myself.[a]	0.25	0.14	0.42	0.51	0.49	0.41	0.21	0.13	0.27	0.18	0.09	0.06
Whenever I think a lot about being a (lesbian/gay man), I feel depressed.[a]	0.19	0.05	0.27	0.41	0.48	0.59	0.22	0.13	0.27	0.19	0.13	0.00
Most problems that homosexuals have come from their status as an oppressed minority, not from their homosexuality per se.[a]	–0.20	–0.04	0.07	0.14	–0.25	–0.39	0.10	0.17	–0.17	–0.05	0.21	–0.06
Difficult Process												
Coming out to my friends and family has been a very lengthy process.	0.24	0.30	0.15	0.08	–0.01	0.07	0.52	0.47	–0.11	0.02	–0.08	0.15
I have felt comfortable with my sexual identity just about from the start. (R)	–0.11	–0.05	0.00	–0.07	–0.10	–0.06	–0.71	–0.74	–0.06	0.11	0.10	0.01
Admitting to myself that I'm a (lesbian/gay man) has been a very painful process.	0.06	0.00	0.17	0.14	0.22	0.11	0.78	0.76	0.08	0.09	0.03	0.00
Developing as a (lesbian/gay man) has been a fairly natural process for me. (R)	–0.08	–0.07	–0.22	–0.09	–0.21	–0.29	–0.58	–0.66	–0.20	0.02	0.05	0.04

(table continued on next page)

TABLE 1 (Continued)

Lesbian and Gay Identity Scale Items and Structure Coefficients

Scale Name and Item	Factor 1		Factor 2		Factor 3		Factor 4		Factor 5		Factor 6	
	F	M	F	M	F	M	F	M	F	M	F	M
Difficult Process (Continued)												
Admitting to myself that I'm a (lesbian/gay man) has been a very slow process.	0.10	–0.02	0.14	0.06	0.12	0.07	0.74	0.72	0.15	0.20	–0.01	–0.02
I'm very open about my sexual orientation, but it has taken me a while to get to this point.[a]	–0.25	–0.31	–0.27	–0.13	–0.16	–0.25	0.52	0.38	–0.15	0.04	0.00	0.03
Identity Confusion												
I'm not totally sure that I'm a (lesbian/gay man).	0.08	0.09	0.02	0.00	0.11	0.12	0.07	–0.12	0.64	0.59	–0.10	0.12
I keep changing my mind about my sexual orientation.	–0.02	–0.05	0.13	0.01	0.21	0.16	0.00	0.05	0.72	0.74	0.09	–0.03
I can't decide whether I am bisexual or (lesbian/gay).	0.06	–0.05	0.19	0.00	0.09	0.13	0.09	0.10	0.78	0.76	0.05	–0.07
I get very confused when I try to figure out my sexual orientation.	0.17	0.02	0.13	0.18	0.17	0.09	0.14	0.05	0.78	0.75	0.04	–0.08
I have very few doubts as to what my sexual orientation is.[a]	–0.05	–0.01	–0.01	0.13	–0.11	0.08	0.06	–0.10	–0.67	–0.33	0.07	–0.04
Superiority												
I look down on heterosexuals.	–0.02	0.00	–0.01	0.05	–0.01	0.09	–0.07	0.01	–0.03	0.02	0.81	0.78
Straight people have boring lives compared with lesbians and gay men.	–0.01	–0.02	–0.02	0.00	0.00	–0.05	–0.05	–0.04	–0.03	0.03	0.83	0.81
Eigenvalue	5.01	4.19	3.84	4.09	3.43	3.68	3.15	2.77	3.31	2.50	1.67	1.97
Total % Variance	12.50	10.50	9.60	10.20	8.60	9.20	7.90	6.90	8.30	6.30	4.20	4.90

Note. F = female participants; M = male participants; R = reverse scored. Items with parentheses were worded to be specific for lesbian or gay male respondents as indicated. The actual items did not include parentheses. LGB = lesbian, gay, and bisexual.

[a]This item did not meet the requirements for inclusion in the final version of the scale.

TABLE 2

Descriptive Information for the LGIS and OI and Differences Between Lesbians and Gay Men

Scale	Full Sample			Lesbians				Gay Men					
	M	*SD*	α	*M*	*SD*	*N*	α	*M*	*SD*	*N*	α	*d*	*t*
LGIS													
Need for Acceptance	2.41	1.09	.75	2.32	1.06	590	.76	2.54	1.12	414	.75	–.19	–3.15*
Need for Privacy	3.72	1.31	.81	3.60	1.31	590	.80	3.87	1.30	414	.81	–.16	–3.20*
Homonegativity	1.66	0.92	.79	1.56	0.86	590	.78	1.79	0.98	414	.79	–.28	–3.96*
Difficult Process	3.35	1.48	.79	3.21	1.52	590	.80	3.54	1.41	414	.76	–.15	–3.52*
Identity Confusion	1.35	0.83	.77	1.45	0.96	590	.79	1.21	0.57	414	.65	.36	4.66*
Superiority	2.21	1.41	.65	2.11	1.40	590	.68	2.34	1.42	414	.62	–.12	–2.51
OI													
Out to Family	5.28	1.31	.74	5.33	1.27	590	.71	5.21	1.36	414	.78	.07	1.49
Out to World	5.09	1.39	.79	5.10	1.39	590	.78	5.07	1.39	414	.80	.02	0.28
Out to Religion	5.09	2.38	.97	5.20	2.34	232	.98	4.78	2.42	179	.97	.07	1.77

Note. OI = Outness Inventory; LGIS = Lesbian and Gay Identity Scale; Homonegativity = Internalized Homonegativity.
*Significant gender difference on means, $p < .009$, with one half of the usual degrees of freedom to compensate for nonindependence associated with the romantic partners in sample.

TABLE 3

Intercorrelations Among LGIS and OI Subscales

Variable	1	2	3	4	5	6	7	8	9*
LGIS									
1. Need for Privacy		.35*	.38*	.31*	.13	−.13	−.36*	−.58*	−.42*
2. Need for Acceptance	.38*		.42*	.44*	.28*	.02	−.27*	−.31*	−.31*
3. Homonegativity	.38*	.39*		.37*	.40*	−.11	−.20*	−.31*	−.17
4. Difficult Process	.19	.30*	.32*		.22*	−.04	−.31*	−.24*	−.29
5. Identity Confusion	.06	.09	.23*	.10		.02	−.16	−.13	−.13
6. Superiority	−.03	.17	−.03	.01	.06		.00	.02	.07
OI									
7. Out to Family	−.36*	−.13	−.23*	−.12	−.07	−.03		.38*	.44*
8. Out to World	−.54*	−.28*	−.34*	−.14	−.06	−.01	.42*		.46*
9. Out to Religion*	−.30	−.25	−.25	−.03	−.15	−.23	.36*	.41*	

Note. See Table 2 *Note.* Homonegativity = Internalized Homonegativity. Correlations above the diagonal are for lesbians; those below the diagonal are for gay men.
*The sample size for correlations with this variable was 232 for lesbians and 179 for gay men.
***$p < .001$, with one half of the usual degrees of freedom to compensate for nonindependence associated with the romantic partners in sample.

sure aspects of LG identity that involve negative beliefs and feelings related to one's sexual orientation. The second components were characterized by high loadings on Identity Confusion. For lesbians, this component also included a strong loading on Internalized Homonegativity. Finally, the third components were characterized by high loadings on Superiority. Principal components analysis can yield substantially different results from analyses based on the common factors ap-

TABLE 4

LGIS Second-Order Structure Coefficients

	Lesbians			Gay Men		
Variable	1	2	3	1	2	3
Need for Privacy	.73	.04	−.28	.75	−.03	−.12
Need for Acceptance	.74	.25	.12	.74	.31	−.04
Homonegativity	.53	.59	−.14	.76	−.17	.23
Difficult Process	.75	.11	.06	.59	−.08	.25
Identity Confusion	.09	.94	.02	.08	.08	.95
Superiority	−.02	−.03	.97	−.03	.96	.07
Eigenvalues	1.93	1.31	1.06	2.04	1.06	1.04
Total % Variance	32.20	21.80	17.60	34.10	17.70	17.30

Note. See Table 2 *Note.* Homonegativity = Internalized Homonegativity.

proach when a small number of variables is analyzed (Nunnally, 1978). To account for this possibility, we used PROC FACTOR (SAS Institute, 1995) to conduct a Maxwell-Lawley maximum likelihood factor analysis with varimax rotation on the six subscales of the LGIS. Although the structure coefficients differed somewhat from those derived in the principal components analysis, the basic factor structure was identical.

OI. Analyses of data from the OI were based on a combination of a reduced sample (for items related to outness in religious organizations) and the full sample (for all other items). As discussed earlier, we did this because many participants did not respond to the two items assessing outness in religious organizations. Principal components analyses with varimax rotations were performed separately for the lesbian and gay male random subsamples. Correlation matrices for the analyses were generated using pairwise deletion. Thus, correlations involving the items on outness in religious organizations were based on three quarters of the reduced sample (i.e., 174 lesbians and 134 gay men), and correlations not involving these items were based on three quarters of the full sample (i.e., 442 lesbians and 311 gay men). Kaiser's overall MSA indicated that the item correlation matrix was appropriate for factor analysis (MSA = .78 for the entire sample). None of the individual items had an MSA value below .5; thus, all items were retained for the analysis. For lesbians, the principal components analysis resulted in three factors with eigenvalues greater than 1.0 that accounted for 63% of the item pool variance. For gay men, the analysis yielded 3 factors with eigenvalues greater than 1.0 that accounted for 66% of the variance. Inspection of the scree plots suggested the appropriateness of the 3-factor solution for both lesbians and gay men. We chose the 3-factor solution for both groups after studying factor solutions ranging from 2 through 4 factors. This number of factors offered good overlap among corresponding factors in the lesbian and gay male solutions, and the factors were easily interpretable.

This procedure led us to retain 10 of the 11 items. The subscales and structure coefficients are presented in Table 5. The labels and interpretation of high

TABLE 5

OI Items and Structure Coefficients

	Factor 1		Factor 2		Factor 3	
Scale Name and Item	**F**	**M**	**F**	**M**	**F**	**M**
Out to World						
My new straight friends	.71	.70	.14	.19	.18	.08
My work peers	.80	.83	.05	.28	.38	.09
My work supervisors	.79	.87	.01	.20	.36	.15
Strangers	.60	.60	.22	−.01	.03	.35
My old straight friends*	.42	.38	.24	.32	.19	.19
Out to Family						
Mother	.15	.12	.83	.85	−.06	.02
Father	.09	.10	.75	.79	.25	.17
Siblings	.12	.23	.62	.78	.20	−.05
Extended family/relatives	.27	.24	.55	.57	.29	.37
Out to Religion						
Members of my religious community (e.g., church, temple)	.27	.13	.24	.16	.90	.93
Leaders of my religious community (e.g., minister, rabbi)	.24	.12	.25	.15	.91	.94
Eigenvalues	2.55	2.61	2.19	2.59	2.17	2.11
Total % Variance	23.20	23.70	19.90	23.50	19.70	19.20

Note. See Table 2 *Note.* F = female participants; M = male participants.
*This item did not meet the requirements for inclusion in the final version of the scale.

scores on the subscales are as follows: (a) Out to World (4 items; $\alpha = .79$), one's sexual orientation is known by and openly discussed with new heterosexual friends, work peers, work supervisors, and strangers; (b) Out to Family (4 items; $\alpha = .74$), one's sexual orientation is known by and openly discussed with family members; and (c) Out to Religion (2 items; $\alpha = .97$), one's sexual orientation is known by and openly discussed with members and leaders of one's religious community. Subscale means, standard deviations, and coefficient alphas are presented in Table 2; correlations among subscales are featured in Table 3.

We used CFA to examine the degree to which data from the remaining one quarter sample offered an adequate fit to the structure of the revised OI. As with the EFAs, the correlation matrix was generated using pairwise deletion. Thus, correlations of the items that measured outness in religious organizations were based on 103 participants, whereas correlations that did not involve these items were based on 251 participants. In the CFA model, we allowed the three factors of the OI to covary. The adequacy of the model was supported by the three indices of fit (CFI = .95; NNFI = .94; GFI = .91), but, as we discussed earlier, it was not supported by the overly conservative chi-square test, $\chi^2(32, N = 103) = 53.81$, $p < .05$. This analysis suggested that the observed data offered an acceptable fit to the structure of the revised OI.

The previous analysis suggested that outness (as measured by the OI) could be adequately represented by the three interrelated factors of outness to family, to the world, and to one's religious organization, but the question remained as to whether a 1-factor model could explain variation in the observed data equally well. We explored this question by (a) examining the goodness of fit of the 1-factor model, (b) testing the difference in fit between the 1- and 3-factor models, and (c) considering a model with a 2-level hierarchical factor structure in which the three first-order outness factors define a second-order general outness factor.

All fit indices indicated that the 1-factor model did not adequately account for variation in OI items (CFI = .58; NNFI = .49; GFI = .67), $\chi^2(35, N = 103) = 218.78$, $p < .001$. The chi-square statistic for the difference in fit between the 1- and 3-factor models was significant, $\chi^2(3, N = 103) = 164.97$, $p < .001$, indicating that the data fit the 3-factor model for the OI significantly better than the 1-factor model. Finally, inspection of the second-order factor model indicated that it is very similar in fit to the 3-factor model described above (CFI = .96; NNFI = .94; GFI = .90), $\chi^2(33, N = 103) = 54.39$, $p < .05$. (The two higher order paths were constrained to be equal so that the second order component of the model would be overidentified.) Thus, covariation in outness levels in the three spheres of family, world, and religion was well accounted for by both a structure in which the three outness factors were allowed to correlate and a structure in which the three factors loaded on a factor of general outness.

Validity Analyses

As discussed earlier, we planned to provide preliminary validity evidence for scores on the two new scales by examining their associations with several other measures. After we completed the factor analyses and identified subscales, we developed hypotheses regarding correlations of the LGIS and OI with validity measures. Our first hypotheses concerned the three LGIS subscales that measured current negative beliefs and feelings regarding one's sexual orientation (i.e., Need for Privacy, Need for Acceptance, and Internalized Homonegativity). We hypothesized that individuals with high scores on these subscales would

tend to have lower than average levels of self-esteem, identification with LG communities (i.e., low SGO), alignment with the internalization–synthesis phase of individual sexual orientation identity, time spent in the identity development process, and participation in LG-supportive religious organizations. We hypothesized that participants with high scores on the Difficult Process subscale would exhibit, compared to others, high levels of alignment with the deepening–commitment phase of group membership identity (because of the acute awareness of oppression associated with this phase) and low levels of participation in LG-supportive religious organizations. We expected that individuals with high levels of Identity Confusion would be likely to have spent less than average time in the identity development process and to have low levels of alignment with the internalization–synthesis phase of individual sexual orientation identity. Moreover, we hypothesized that participants with high levels of superiority would be less likely than others to interact with heterosexuals (i.e., low OGO) but more likely than others to be in alignment with the deepening–commitment phase of group membership identity. Finally, we expected that individuals with generally high levels of outness, as measured by the OI, would tend to have high levels of identification with LG communities (i.e., high SGO), time spent in the identity development process, and involvement in supportive religious organizations. We thought that the relation of OI subscales to involvement in supportive religious organizations would be strongest for the Out to Religion subscale.

Correlations between the new scales and the validity measures are reported in Table 6. An experimentwise error rate of .10 (i.e., an individual probability rate of .003 for each of the 33 hypothesized correlations) was used to control the Type I error rate. Moreover, half of the usual degrees of freedom were used as a conservative protection against inflated Type I errors related to the potential nonindependence of romantic partners' observations (Griffin & Gonzalez, 1995). Inspection of the findings indicated that, as predicted, self-esteem was negatively associated with Need for Acceptance, Internalized Homonegativity (for gay men only), and Difficult Process. Self-esteem was not associated with Need for Privacy, however. Lesbians with high self-esteem were less likely than average to be confused about their sexual orientation, and gay men with high self-esteem were more likely to be "out" in their public lives. We found that level of SGO was negatively related to Need for Privacy, Need for Acceptance (for lesbians only), Internalized Homonegativity, and Identity Confusion (for lesbians only) and positively related to outness in family, public, and religious institutions. SGO was not related to Difficult Process, however. As predicted, levels of OGO were negatively associated with superiority. Gay men with high levels of OGO were less likely than others to have high scores on Need for Privacy and Need for Acceptance and more likely to be "out" in different settings.

As predicted, individuals who had high ratings on the internalization–synthesis phase of individual sexual identity tended to have low scores on Need for Acceptance, Internalized Homonegativity, and Identity Confusion (lesbians only), as well as low scores on Need for Privacy and high scores on outness subscales. Participants with high scores on the deepening–commitment phase of group membership identity tended to have high scores on Difficult Process, Superiority, and Need for Acceptance. Contrary to prediction, the variable assessing years in the identity formation process was not related to any of the scales for gay men. For lesbians, however, years in the identity process was negatively related to Need for Acceptance, Identity Confusion, and Out to Family. Participation in religious organizations that are not progay was associated with lower than average levels

TABLE 6

Correlations of the LGIS and OI With Validity Measures

Variable	Esteem L	Esteem G	SGO L	SGO G	OGO L	OGO G	I/S Phase L	I/S Phase G	D/C Phase L	D/C Phase G	Years L	Years G	Religion[a] L	Religion[a] G
LGIS														
1. Need for Privacy	−.13	−.19	−.39*	−.30*	−.04	−.24*	−.20*	−.26*	.18*	.18	.01	.01	−.19	−.41*
2. Need for Acceptance	−.34*	−.33*	−.18*	−.17	−.04	−.22*	−.23*	−.27*	.28*	.29*	−.21*	−.13	−.08	−.32*
3. Homonegativity	−.16	−.24*	−.43*	−.47*	.03	−.10	−.36*	−.43*	.01	.03	−.05	−.04	.00	−.29*
4. Difficult Process	−.23*	−.23*	−.14	−.11	.00	−.02	−.11	−.15	.24*	.23*	−.09	−.09	.00	−.10
5. Identity Confusion	−.22*	−.09	−.24*	−.15	.03	−.01	−.37*	−.11	.04	−.02	−.21*	−.15	−.07	.00
6. Superiority	−.11	−.08	.16	.10	−.35*	−.35*	.04	.03	.23*	.29*	.02	−.10	.04	.02
OI														
7. Out to Family	.14	.10	.21*	.20*	.04	.22*	.20*	.21*	−.19*	−.12	.18*	.03	.21	.02
8. Out to World	.15	.21*	.31*	.31*	.15	.28*	.21*	.24*	−.20*	−.14	.08	.08	.25	.08
9. Out to Religion[a]	.11	.18	.35*	.37*	.09	.37*	.16	.26*	−.17	−.04	.19	.29	.59*	.40*

Note. See Table 2 *Note.* L = lesbians; G = gay men; Homonegativity = Internalized Homonegativity; Esteem = self-esteem; SGO = same-group orientation; OGO = other-group orientation; I/S Phase = internalization/synthesis phase of individual sexual identity; D/C Phase = deepening/commitment phase of group membership identity; Years = years since identity milestones; Religion = own religious organization is progay.

[a]The sample size for correlations with this variable was 232 for lesbians and 179 for gay men.

**$p < .003$, with one half of the usual degrees of freedom to compensate for nonindependence associated with the romantic partners in sample.

of outness in one's religious community. For gay men, participation in such organizations was also associated with higher than average scores on Need for Privacy, Need for Acceptance, and Homonegativity.

Gender-Related Differences

One advantage of creating measures for use by both lesbians and gay men is that these two groups can be directly compared. Because evidence indicates that societal sanctions against homosexuality tend to be more extreme for men than for women (Garnets & Kimmel, 1993; Kite & Whitley, 1996), we expected that gay men would have higher ratings than lesbians on the LGIS subscales that assessed negative beliefs and feelings regarding one's sexual orientation. To control the Type I error rate, we used an experimentwise error rate of .10 (i.e., .009 for each individual test) and one half the usual degrees of freedom (to account for nonindependence of observations associated with same-sex couples). As expected, gay men had higher mean scores than lesbians on Need for Privacy, Need for Acceptance, Internalized Homonegativity, and Difficult Process (see Table 2). The only other gender effect detected was that lesbians had higher mean levels of Identity Confusion than gay men. Although this was the largest of the five effects (d = .36), none of the gender effects is considered substantial by conventional standards (Cohen, 1988).

DISCUSSION

Despite the growing interest among researchers in studying variables unique to the experience of lesbians and gay men, little serious attention has been given to measurement issues in this area. In this article, we reviewed concepts and contributions relevant to assessment of these variables, and we described the development of two new scales that were designed to measure dimensions of LG experience. The following analyses provide preliminary support for the psychometric soundness of the LGIS and the OI.

The LGIS was designed to measure aspects of LG identity that have been discussed in theoretical and clinical writings. EFAs and CFAs supported a six-factor structure for lesbians and gay men. Further analyses suggested that covariation among the six factors was well explained by a second-order structure composed of three higher-level factors: a factor that emphasized Identity Confusion (which, for lesbians, also included high loadings on Internalized Homonegativity), a factor that emphasized Superiority, and a factor emphasizing the four subscales that assessed negative beliefs and feelings related to one's sexual orientation (i.e., Need for Privacy, Need for Acceptance, Internalized Homonegativity, and Difficult Process). Scores on all subscales had internal consistency reliability estimates that were acceptable for research purposes (Nunnally, 1978). Mean levels on subscales indicated that participants generally reported having positive and secure sexual orientation identities.

Validity of the LGIS for use with adult LG individuals was supported through correlations with measures of self-esteem, same- and other-group orientation, LG identity stage, years since achieving identity milestones, and the stance of one's religious organization. Of all the LGIS subscales, Need for Acceptance was most strongly related to self-esteem. This suggests that a risk factor for low self-esteem among LG individuals is preoccupation with the degree to which their sexual orientation is accepted by others.

Several gender differences were found regarding LGIS subscales. Men generally had higher levels of internalized homonegativity, need for privacy and acceptance regarding their sexual orientation, and difficulty in the coming out process. Women tended to have higher levels of confusion regarding their sexual orientation. Gender differences also emerged in the validity analyses. For example, gay men whose religious organizations were progay tended to have below average scores on Need for Privacy, Need for Acceptance, and Internalized Homonegativity. None of these relations was significant for lesbians, however. Moreover, for lesbians but not gay men, time spent in the process of LG identity formation was negatively associated with need for acceptance and identity confusion. Such differences point to potentially rich terrain for researchers and theoreticians to explore ways in which gender dynamics influence sexual orientation identity in LG individuals.

The OI was developed to assess levels of outness in different areas of functioning. Strong support was found for a 3-factor structure that consisted of outness in the realms of family, daily life, and religion. The factor that we called Out to World was interesting because it included high item loadings on relationships from different areas of functioning (i.e., workplace relationships, friendships with heterosexuals, new relationships with strangers). This suggests that similar dynamics may underlie the decisions that LG individuals make regarding levels of outness in these different relationships. Estimated internal consistency reliabilities of the subscales were sufficiently high for research purposes. Mean levels on all subscales suggested that participants were generally open about their sexual orientation. The three factors were found to load on a second-order factor that represented general level of outness. Thus, researchers may use either the full scale or individual subscales when analyzing data from the OI, depending on the nature of the research questions. The higher order factor structure of outness was evident in the research findings. For example, general levels of outness were evident in the finding that participants who were strongly identified with LG communities and whose identities were similar to the final phase of individual identity development tended to have high scores on all of the OI subscales. This reflects the idea that individuals who are highly committed to their LG identity are expected to be generally more open about their sexual orientation than others. Evidence for the discriminant validity of scores on the three subscales was apparent in the finding that only the Out to Religion subscale was related to whether participants were involved in a progay or nonsupportive religious organization.

Although the current study supports the use of the LGIS and OI with adult lesbians and gay men, several caveats must be made. First, this study did not feature a random sample of lesbians and gay men. The typical participant in this study was White, college educated, and a city or suburb dweller. Participants had generally high levels of self-esteem and positive LG identity, and all participants had been in same-sex romantic relationships for at least 3 months prior to completing their surveys. Thus, findings regarding factor structure, internal consistency, and validity cannot be generalized to subpopulations of LG individuals that were not represented in this sample (e.g., LG youth, LG individuals with high levels of psychopathology) and should be cross-validated in other samples. This limitation is further underscored by the relatively low response rate (49%). Because we lacked financial and human resources, we did not use follow-up procedures to gain a higher return rate, and it is impossible to know the ways in which the psychometric properties of the LGIS and OI would have differed for nonresponders and responders. We believe that the

factor structure would likely have been very similar for nonresponders because the constructs assessed by the LGIS and OI are theorized to exist for diverse LG populations. Data from nonresponders may have increased variability in the new scales, however, which may have resulted in stronger correlations with established measures.

Second, our findings did not allow us to draw conclusions about the validity of scores on the Identity Confusion subscale with the population of gay men that we sampled. We expected that high scores on Identity Confusion would be associated with low scores on the scale assessing the internalization–synthesis phase of individual sexual identity development, but no relation was found for gay men. Indeed, for gay men, Internalized Homonegativity was the only scale included in this study that was significantly related to Identity Confusion. This suggests that research on both the validity of scores on this scale and the significance of the construct for gay men is needed. Third, data on other forms of reliability (e.g., test–retest) are needed. Fourth, our efforts were limited to LG individuals, yet measures such as those developed in this study are needed for research on bisexual women and men. It is likely that many of the constructs assessed by the LGIS and OI are salient for bisexual people, but research is needed to evaluate the validity and reliability of scores on these new scales for different bisexual populations. Finally, it is important to note that the item development process was conducted mostly by White, highly educated individuals and was based on LG literature written largely by White researchers and theorists. Thus, both items and the constructs measured may not reflect important aspects of the experience of LG individuals from different ethnic and racial groups.

This study had several noteworthy strengths. First, factor structures identified in EFAs were cross-validated using CFAs. Although the factor structures of the two new scales should continue to be examined (particularly with different LG subpopulations, as noted earlier), the use of cross-validation lends an extra measure of support for the subscales identified in our study. Second, the stability and generalizability of the findings were enhanced by our use of a sample that was relatively large and that was diverse with regard to both income and geography. Third, we believe that the instrument development process was strengthened by the use of separate EFAs for LG individuals. This strategy helped us identify factors common to both groups and items that were suitable for both groups. Although this does not mean that the factors play identical roles in the psychosocial functioning of LG individuals (as was evident in the validity analyses), it does mean that the subscales identified in this study measure distinct dimensions of LG experience that are shared by both groups.

CONCLUSION

The need for empirical research on the lives of LG individuals is evident in current debates about a wide range of LG-related issues, such as LG parents, psychological interventions for LG individuals, LG youth in the schools, workplace climate for LG employees, and same-sex marriage (Bohan, 1996). Quantitative investigations of these areas rely on instruments that can reliably assess the phenomena of interest. For this reason, we believe that efforts such as those documented in this article will play an important role in generating information that can inform theory, practice, and policy aimed at improving conditions for LG individuals.

Instruments such as the LGIS and OI may also provide information that can inform and enhance counseling practice with LG clients. Traditional psychological assessment instruments have been noted as a source of potential bias in the treatment of LG clients (Chernin, Holden, & Chandler, 1997). Among other things, reliance on traditional instruments in the assessment of LG individuals may reflect an assumption that the experience of LG individuals is fundamentally the same as that of heterosexual individuals. This assumption may result in a "null environment" in which LG-related issues are marginalized or rendered invisible in the context of counseling and assessment (Fassinger, 1991). Although people of all sexual orientations doubtless have much in common, treatment of LG clients may often require investigation of factors unique to that population (Hancock, 1995). Thus, explicit assessment of constructs such as those measured by the LGIS and OI may help counselors gain information that is relevant to the psychosocial functioning of their LG clients. Furthermore, use of measures like the LGIS and OI may communicate to LG clients that their treatment is occurring in a proactive environment rather than a null environment, which, in turn, may provide a basis for greater self-reflection and discussion about potentially important aspects of LG experience.

REFERENCES

Bell, A. P., & Weinberg, M. S. (1978). *Homosexualities: A study of diversity among men and women.* New York: Simon & Schuster.

Berger, R. M. (1990). Passing: Impact on the quality of same-sex couple relationships. *Social Work, 35,* 328–332.

Bohan, J. S. (1996). *Psychology and sexual orientation: Coming to terms.* New York: Routledge.

Bollen, K. A. (1989). *Structural equations with latent variables.* New York: Wiley.

Brady, S., & Busse, W. J. (1994). The Gay Identity Questionnaire: A brief measure of homosexual identity formation. *Journal of Homosexuality, 26,* 1–22.

Cass, V. C. (1984). Homosexual identity formation: Testing a theoretical model. *Journal of Sex Research, 20,* 143–167.

Chernin, J., Holden, J. M., & Chandler, C. (1997). Bias in psychological assessment: Heterosexism. *Measurement and Evaluation in Counseling and Development, 30,* 68–76.

Cohen, J. (1988). *Statistical power analysis for behavioral sciences* (2d ed.). New York: Academic Press.

Cortina, J. M. (1993). What is coefficient alpha?: An examination of theory and application. *Journal of Applied Psychology, 78,* 98–104.

Crandall, R. (1973). The measurement of self-esteem and related concepts. In J. P. Robinson & P. R. Shaver (Eds.), *Measures of social psychological attitudes* (Rev. ed., pp. 45–167). Ann Arbor: University of Michigan Press.

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

Fassinger, R. E. (1997). *Gay Identity Scale.* Unpublished measure, University of Maryland, College Park.

Fassinger, R. E., and McCarn, S. R. (1997). *Lesbian Identity Scale.* Unpublished measure, University of Maryland, College Park.

Fassinger, R. E., & Miller, B. A. (1996). Validation of a model of sexual identity development for a sample of gay men. *Journal of Homosexuality, 32,* 53–79.

Garnets, L. D., & Kimmel, D. C. (1993). Lesbian and gay male dimensions in the psychological study of human diversity. In L. D. Garnets & D.C. Kimmel (Eds.), *Psychological perspectives on lesbian and gay male experiences* (pp. 1–51). New York: Columbia University Press.

Gonsiorek, J. C., & Rudolph, F. R. (1992). *Homosexual identity: Coming out and other developmental events.* In J. C. Gonsiorek & J. D. Weinrich (Eds.), *Homosexuality: Research implications for public policy* (pp. 161–176). Newbury Park, CA: Sage.

Griffin, D., & Gonzalez, R. (1995). *Correlational analysis of dyad-level data in the exchangeable case. Psychological Bulletin, 118,* 430–439.

Hair, J. F., Jr., Andersen, R. E., & Tatham, R. L. (1998). *Multivariate data analysis with readings* (2d ed.). New York: Macmillan.

Hancock, K. A. (1995). Psychotherapy with lesbians and gay men. In A. R. D'Augelli & C. J. Patterson (Eds.), *Lesbian, gay, and bisexual identities over the lifespan: Psychological perspectives* (pp. 398–432). New York: Oxford University Press.

Harry, J. (1993). Being out: A general model. *Journal of Homosexuality, 26,* 25–39.

Hershberger, S. L., & D'Augelli, A. R. (1995). The impact of victimization on the mental health and suicidality of lesbian, gay, and bisexual youths. *Developmental Psychology, 31,* 65–74.

Holtzen, D. W., Kenny, M. E., & Mahalik, J. R. (1995). Contributions of parental attachment to gay or lesbian disclosure to parents and dysfunctional cognitive processes. *Journal of Counseling Psychology, 42,* 350–355.

Kahn, M. J. (1991). Factors affecting the coming out process for lesbians. *Journal of Homosexuality, 21,* 47–41

Kaiser, H. F. (1974). An index of factorial simplicity. *Psychometrika, 39,* 31–36.

Kite, M. E., & Whitley, B. E. (1996). Sex differences in attitudes toward homosexual persons, behaviors, and civil rights: A meta-analysis. *Personality and Social Psychology Bulletin, 22,* 336–353.

Levine, H. (1997). A further exploration of the lesbian identity development process and its measurement. *Journal of Homosexuality, 34,* 67–78

Malyon, A. (1982). Psychotherapeutic implications of internalized homophobia in gay men. *Journal of Homosexuality, 7,* 59–69.

Margolies, L., Becker, M., & Jackson-Brewer, K. (1987). Internalized homonegativity: Identifying and treating the oppressor within. In Boston Lesbian Psychologies Collective (Eds.), *Lesbian psychologies: Explorations and challenges* (pp. 229–243). Urbana: University of Illinois Press.

Martin, J. L., & Dean, L. L. (1987). *Summary of measures: Mental health effects of AIDS on at-risk homosexual men.* Unpublished manuscript, Columbia University.

McCarn, S. R. (1991). *Validation of a model of sexual minority (lesbian) identity development.* Unpublished master's thesis, University of Maryland, College Park.

McCarn, S. R., & Fassinger, R. E. (1996). Re-visioning sexual minority identity formation: A new model of lesbian identity and its implications for counseling and research. *The Counseling Psychologist, 24,* 508–534.

Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior, 36,* 38–56.

Miranda, J., & Storms, M. (1989). Psychological adjustment of lesbians and gay men. *Journal of Counseling and Development, 68,* 41–45.

Mohr, J. J., & Rochlen, A. B. (1999). Measuring attitudes regarding bisexuality in lesbian, gay male, and heterosexual populations. *Journal of Counseling Psychology, 46,* 353–369.

Nungesser, L. (1983). *Homosexual acts, actors and identities.* New York: Praeger.

Nunnally, J. C. (1978). *Psychometric theory.* New York: McGraw-Hill.

Otis, M. D., & Skinner, W. F. (1996). The prevalence of victimization and its effect on mental well-being among lesbian and gay people. *Journal of Homosexuality, 30,* 93–117.

Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research, 7,* 156–176.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

SAS Institute. (1995). SAS (Version 6.10) [Computer software]. Cary, NC: Author.

Savin-Williams, R. C. (1989). Coming out to parents and self-esteem among gay and lesbian youths. *Journal of Homosexuality, 18,* 1–35.

Shidlo, A. (1994). Internalized homophobia: Conceptual and empirical issues in mea-

surement. In B. Greene & G. M. Herek (Eds.), *Lesbian and gay psychology: Theory, research, and clinical applications* (pp. 176–205). Thousand Oaks, CA: Sage.

Tanaka, J. S. (1993). Multifaceted conceptions of fit in structural equation models. In J. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 10–39). Newbury Park, CA: Sage.

Tinsley, H. E. A., & Tinsley, D. J. (1987). Uses of factor analysis in counseling psychology research. *Journal of Counseling Psychology, 34*, 414–424.

Waldo, C. R. (1999). Working in a majority context: A structural model of heterosexism as minority stress in the workplace. *Journal of Counseling Psychology, 46*, 218–232.