ATTACHMENT, POSITIVE FEELINGS ABOUT BEING A LESBIAN, PERCEIVED GENERAL SUPPORT, AND WELL-BEING

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This study examined whether positive feelings about being a lesbian and perceived general support from others are two mediators between attachment (i.e., anxiety and avoidance) and three indices of well-being (i.e., higher levels of life satisfaction, fewer depressive symptoms, and lower levels of loneliness). Participants were 163 self-identified lesbians from different regions in the United States. The results from a path model analysis indicated that (a) positive feelings about being a lesbian mediated the relations between attachment (i.e., anxiety and avoidance) and life satisfaction, (b) perceived general support from others mediated the relations between attachment anxiety and all three indices of well-being, and (c) the associations between attachment (i.e., anxiety and avoidance) and three indices of well-being were also mediated by positive feelings about being a lesbian, followed by perceived general support from others. Moreover, the exploratory results from a multiple-group analysis revealed that the mediation model was invariant across the student samples and community adult samples.

Even though attachment theory can be applied to both same-sex and heterosexual attracted adults, research studies linking attachment theory to lesbian, gay, and bisexual (LGB) adults are scarce (Mohr, 1999). Fortunately, a small but growing body of empirical lit-
erature has provided data to support the applications of attachment theory to LGB adults (Holtzen, Kenny, & Mahalik, 1995; Jellison & McConnell, 2003; Mohr & Fassinger, 2003; Sherry, 2007; Wells & Hansen, 2003). In the past decade, attachment theorists (e.g., Brennan, Clark, & Shaver, 1998) have operationalized two dimensions of attachment. Adult attachment anxiety is defined as the fear of abandonment and ambivalence about others’ availability. Conversely, attachment avoidance refers to the fear of intimacy and compulsive self-reliance with reluctance to rely on others for interpersonal needs (Brennan et al., 1998).

Mohr (1999) suggested that adult attachment might play an important role in understanding LGB individuals’ reactions to perceived rejections from others due to their sexual orientations. The way in which lesbians’ well-being is affected by their attachment dimensions is an important topic to study. Specifically, attachment orientations are activated when a person is in distress. Lesbians often encounter societal barriers and constraints; therefore, studying their attachment orientations may be useful in understanding how lesbians maintain their well-being. In addition, studies that examined the application of attachment theory to LGB adults mostly focused on attachment and LGB identity development. However, limited studies looked at the association between attachment and psychological well-being. Among the few studies that have applied attachment theory to LGB adults, Bernstein (1997) found that strong parental attachment was significantly related to emotional well-being. Also, Zakalik and Wei (2006) found that attachment anxiety and avoidance were significantly related to depression. In line with Mohr’s (1999) suggestion, the inclusion of lesbian women in attachment research would broaden our understanding of the adult attachment theory.

POSITIVE FEELINGS ABOUT BEING A LESBIAN, PERCEIVED GENERAL SUPPORT, AND WELL-BEING

Mohr and Fassinger (1999) indicated that internalized homo-negativity (e.g., negative feelings about one’s sexual orientation) and fear of being judged by others (e.g., less perceived general support from others) can be two most significant difficulties for LGB adults with relatively high levels of attachment anxiety and avoidance.
Clearly, lesbian women still face the challenge of building their positive feelings toward being a lesbian and feeling uncertain of whether others support their identity. The current study examined the specific roles of (a) positive feelings about being a lesbian and (b) perceived general support from others in helping lesbians with relatively high levels of attachment anxiety or avoidance foster a sense of well-being.

Intuitively, having positive feelings about being a lesbian and feeling supported by others should enhance lesbians’ well-being (e.g., higher levels of life satisfaction, fewer depressive symptoms, and lower levels of loneliness). In the lesbian literature, a positive LGB identity is positively associated with life-satisfaction (Finghut, Peplau, & Ghavami, 2005) and negatively associated with depressive symptoms (Luhtanen, 2003). Moreover, regarding support from others, Beals and Peplau (2005) demonstrated the critical role of identity support in increasing life satisfaction and decreasing depressive symptoms among lesbian women. Also, Wayment and Peplau (1995) found that, for lesbian women, perceived support from others (e.g., others’ reassurance) is strongly related to well-being. The above empirical data suggest that having positive feelings about being a lesbian and perceived general support from others are likely to be highly associated with lesbians’ well-being.

ATTACHMENT ANXIETY, POSITIVE FEELINGS ABOUT BEING A LESBIAN, AND PERCEIVED GENERAL SUPPORT

According to attachment theory, individuals develop their internal working models of self and others through the responsiveness and availability of significant others (Bartholomew & Horowitz, 1991; Bowlby, 1982, 1988; Lopez & Brennan, 2000; Pietromonaco & Feldman Barrett, 2000). For those with a higher level of attachment anxiety, because of their caregivers’ inconsistent responsiveness to their needs, they tend to doubt their worth of love and develop a negative working model of self (Bartholomew & Horowitz, 1991; Bowlby, 1982, 1988; Pietromonaco & Feldman Barrett, 2000). Due to this negative sense of self, they are likely to have a strong need for others’ support. In order to ensure sufficient attention and care from others, they often demand more support than others are willing or able to give. Eventually, others may be tired of providing the needed
support. As a consequence, those with a higher level of attachment anxiety are likely to feel ambivalent about other’s availabilities and to believe that others are inconsistent in providing their support (e.g., Bowlby, 1973).

Due to the negative view of self, lesbians with higher levels of attachment anxiety are likely to have negative feelings about their sexual orientation. Indirectly, empirical data support this prediction. For example, attachment anxiety was negatively associated with a positive identity (Mohr & Fassinger, 2003) and comfort level with sexual identity (Vanderschaaf, 2002) but was positively associated with internalized shame about themselves (Wells & Hansen, 2003). As we can expect, if lesbian women lack a positive sense of their LGB identity and report internalized shame, they are less likely to have positive feelings about being a lesbian.

According to the attachment theory, lesbian women with a higher level of attachment anxiety are likely to feel uncertain about whether others would support them. In addition, they are likely to perceive low levels of support from others. Thus far, no study has directly examined the association between attachment and perceived general support among lesbian women. However, research indicated that gay men with higher levels of attachment anxiety strongly perceived others’ rejection toward their sexual orientation (Zakalik & Wei, 2006). This suggests that gay men do not perceive general support from others. From the prediction of attachment theory and the indirect empirical evidence among gay men, it is possible that lesbians with high levels of attachment anxiety may not perceive general support from others.

ATTACHMENT AVOIDANCE, POSITIVE FEELINGS ABOUT BEING A LESBIAN, AND PERCEIVED GENERAL SUPPORT

For those with higher levels of attachment avoidance, because of their caregivers’ rejection and unresponsiveness, they may develop either a positive or a negative internal working model of self and a negative internal working model of others (e.g., Bartholomew & Horowitz, 1991; Bowlby, 1982, 1988; Pietromonaco & Feldman Barrett, 2000). That is, lesbian women with high levels of attachment avoidance may compulsively rely on themselves for affirmation
about their sexual orientation and report positive feelings about being a lesbian. However, the positive model of self held by lesbian women with attachment avoidance is quite different from the positive model of self held by those with secure attachment (Mikulincer & Orbach, 1995). Among those with attachment avoidance, defensive denial may have contributed to their positive feelings about being a lesbian. Alternatively, because of the pervasive anti-LGB environment, they may be unable to deny or suppress their negative feelings about being a lesbian. Therefore, they may still have negative feelings about being a lesbian. Thus far, in only one relevant published empirical study among LGB adults, Mohr and Fassinger (2003) reported that those with high levels of attachment avoidance reported negative LGB identity. Similarly, in a study with college students, those with high levels of attachment avoidance reported a lack of capacity for self-validation (Wei, Mallinckrodt, Larson, & Zakalik, 2005). Because the working model of self is very complicated for attachment avoidance, no specific predictions can be made for the association between attachment avoidance and positive feelings about being a lesbian. However, we planned to examine this association for exploratory purposes.

Moreover, because of their negative internal working model of others, lesbians with a high level of attachment avoidance are likely to believe that others are not trustworthy and are less likely to rely on other people for support (e.g., Bowlby, 1982, 1988; Lopez & Brennan, 2000). Their reluctance to rely on others may generate the perception that others around them are not supportive. Although no published studies directly examined the association between attachment and perceived general support from others among LGB samples, Vogel and Wei (2005) reported a negative association between attachment avoidance and perceived social support among college students. Indirectly, Mohr and Fassinger (2003) reported a negative association between attachment avoidance and disclosure of sexual orientation to others among LGB adults. This implies that lesbians with higher levels of attachment avoidance may keep distance from others and do not perceive others to be supportive. In this study, we expected a negative association between attachment avoidance and perceived general support from others.
POSITIVE FEELINGS ABOUT BEING A LESBIAN AND PERCEIVED GENERAL SUPPORT AS POTENTIAL MEDIATORS

From the above literature review, there were potential associations among attachment (i.e., anxiety and avoidance), positive feelings about being a lesbian, perceived general support, and well-being. For those with high levels of attachment anxiety, they would report negative feelings about being a lesbian due to their negative view of self. Also, they are likely to report a low level of perceived general support from others because they are not confident that others would consistently be there for them. Therefore, we anticipated that lesbian women with high levels of attachment anxiety may increase their well-being through (a) increasing positive feelings for their sexual orientation and (b) enhancing perceived general support from others. In contrast, those with higher levels of attachment avoidance may either have a positive or a negative working model of self. Because of this complexity, no mediation hypotheses were proposed. However, because of the negative view of others among those with high levels of attachment avoidance, we anticipated that perceived general support from others would mediate the association between attachment avoidance and well-being.

Moreover, from the sexual identity model’s (Cass, 1979; Szymanski, Kashubeck-West, & Meyer, 2008) perspective, those with elevated negative feelings about being LGB may be less likely to reach out to others for support and to feel satisfied with their social support system. Empirically, Szymanski, Chung, and Balsam (2001) demonstrated that high levels of negative feelings about being a lesbian is related to less overall social support, less overall gay social support, and less satisfaction with social support. Furthermore, social support is a mediator between negative personal feelings about being a lesbian and psychological distress among lesbian and bisexual women (McGregor et al., 2001; Szymanski & Kashubeck-West, 2008). Thus, we anticipated that the associations between attachment anxiety and the indices of well-being would be mediated by positive feelings about being a lesbian and then perceived general support from others (see Figure 1). However, since the internal working model of self is complicated for those with attachment avoidance, no specific prediction was made for them but we examined these associations for exploratory purposes.
In order to increase the generalizability of our findings, we collected data from college students and community adults. Specifically, we planned to examine whether the hypothesized mediation model would be the same or different between these two samples. If no differences were found, it would increase the generalizability of our final results. If a difference was found, it would help us to identify the differential magnitudes of the associations among the main variables for college students and community adults. However, because people’s attachment styles are relatively stable (Bowlby, 1988), their internal working models of self and others are likely to remain relatively similar from being college students to becoming community adults. For this reason, we expected that the mediation paths from attachment (i.e., anxiety and avoidance) to well-being through positive feelings about being a lesbian and perceived general support from others would not be different between these two samples.
METHOD

PARTICIPANTS

A total of 163 participants who self-identified as lesbian women and were 18 years or older were recruited either from the Internet ($n = 150$) or in person ($n = 13$) through LGBT (lesbian, gay, bisexual, and transgender) student associations or community websites.\(^1\) Participants’ age ranged from 18 to 63 years old ($M = 30, SD = 11.21$). About 77% of participants were White or Caucasian, 6% were Latino/a, 6% were multi-racial Americans, 5% were African Americans, and 5% were Asian Americans. About 52% of the participants were students and 48% were nonstudents. Participants were from various locations across the United States with 39% currently living in the Midwest, 22% in the Northeast, 31% from the West, 4% in the South Atlantic, and 4% residing in the South Central (one person did not respond to this question). Regarding religious affiliation, 33% of the participants were Christians followed by 26% as having no religion, 18% as Agnostic, 10% as Atheist, 4% as Pagan, 4% as Jewish, 2% as Buddhist, and 2% indicated as other. When asked if the participants’ parents were involved in a religious organization that is against lesbian and gay relationships, 61% of the participants responded No, 37% responded Yes, and two people did not respond to this question. The mean amount of time the participants reported being out was 8.10 years ($SD = 8.44$) with a range from 0 to 38 years. The majority of participants reported that they were out to their friends (91%), while a lower percentage of the participants rated being out to members of their family (65%) and their coworkers (62%).

INSTRUMENTS

Attachment. The Experiences in Close relationships—Short form (ECR-S; Wei, Russell, Mallinckrodt, & Vogel, 2007) was used to measure attachment anxiety and attachment avoidance. The ECR-S con-

\(^1\) Regarding the number of participants needed for a path model in this study, Hatcher (1994) suggested “there should be a ratio of at least 5 subjects for each parameter to be estimated” (p. 149). In our model (see Figure 1), there are seven indicators. Therefore, there are a maximum of 28 parameters to be estimated in our model (i.e., $[7+8]/2 = 28$). Because $5 \times 28 = 140$, the sample size of 163 in this study meets the sample criterion based on 5 observations per parameter to be estimated.
tains 12 items measured on a 7-point Likert scale being 1 (disagree strongly) to 7 (agree strongly). There are two subscales. The attachment anxiety subscale (6 items) which measures fear of abandonment or rejection from others was used. A sample item is “I do not often worry about being abandoned” (a reversed item). The attachment avoidance subscale (6 items) which assesses fear of intimacy, discomfort with closeness and self-reliance was also used. A sample item is “My desire to be very close sometimes scares people away.” The total score can range between 12 and 84 with higher scores on each subscale indicating higher levels of either attachment anxiety or avoidance. Because the ECR-S has just recently been published, no studies have used this scale with LGB adults yet. However, the ECR (long version) has been administered in a gay male sample and has demonstrated good reliability and validity (Zakalik & Wei, 2006). The coefficient alpha for ECR-S ranged from .77 to .86 for attachment anxiety and ranged from .78 to .88 for attachment avoidance among college students (Wei et al., 2007). In the present study, the coefficient alpha was .88 for attachment anxiety and .91 for attachment avoidance. Wei et al. (2007) reported validity evidence by positive associations of attachment anxiety and avoidance with psychological distress and anxiety.

Positive Feelings About Being a Lesbian. The Personal Feelings about Being a Lesbian (PFL) subscale of the Lesbian Internalized Homophobia Scale (LIHS; Szymanski & Chung, 2001) was used to assess this construct. Sample items are “I feel comfortable being a lesbian” and “I hate myself for being attracted to other women” (a reversed item). The PFL included 8 items which are rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). The total scores ranged from 8 to 56. Higher scores on the PFL indicate higher levels of positive feelings about being a lesbian. The coefficient alpha for PFL was .79 in a sample of women who had experienced same-sex attraction (Szymanski & Chung, 2001) and was .84 in current study’s sample. Construct validity was supported by positive associations with self-esteem and several social support indices, and negative associations with conflict concerning sexual orientation, passing as a heterosexual, loneliness, and depression (Szymanski & Chung, 2001; Szymanski et al., 2001).

Perceived General Support from Others. The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlem, Zimet, & Farley, 1988) was used to measure perceived general support from
others. The MSPSS is a 12-item scale measuring respondents’ perceptions of perceived social support from family, friends, and significant others. Sample items are “I have friends with whom I can share my joys and sorrows” and “My family really tries to help me.” Participants were asked to rate on a 7-point Likert scale from 1 (very strongly disagree) to 7 (very strongly agree). Total scores ranged from 12 to 84 with a high score indicating a higher level of perceived general support. Total scores were computed in the present study to measure perceived general support from others. The coefficient alpha for MSPSS was .88 as reported by the scale’s developers (Zimet et al., 1988) and .91 in the current study. Zimet et al. (1988) provided validity evidence for the MSPSS through negative associations with depression and anxiety among college students. Additionally, construct validity was supported by a positive association with relationship satisfaction among lesbians (Jordan & Deluty, 2000).

Life Satisfaction. The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) was used to assess life satisfaction. The SWLS is a 5-item scale that measures general life satisfaction. A sample item is “I am satisfied with my life.” Items were rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree). Score ranges from 5 to 35 with higher scores reflected higher life satisfaction. Diener et al. found a coefficient alpha of .87 in a sample of LGB adults, Balsam and Mohr (2007) reported a coefficient alpha of .90 for SWLS, which is the same as that found in the current study. Construct validity was supported by a positive association with self-esteem and a negative association with neuroticism (Diener et al., 1985). Also, Kurdek (1997) provided validity evidence for the SWLS through positive associations with indices of relationship commitment and a negative association with neuroticism in same-sex couples.

Depressive Symptoms. The Depression subscale from the Depression, Anxiety, and Stress Scale—Short version (DASS-D-short version; Lovibond & Lovibond, 1995) was used in the study to assess the levels of depressive symptoms. A sample item is “I felt downhearted and blue.” The DASS-D scale has 7 items which are rated on a 4-point Likert scale from 0 (did not apply to me) to 3 (applied to me most of the time). The instructions ask the participant to respond to the items based on their experiences in the last week (Lovibond & Lovibond, 1995). The scores range from 0 to 21 with a higher score indicating a higher level of depressive symptoms. In a gay
male sample, Zakalik and Wei (2006) reported a coefficient alpha of .94. The coefficient alpha for DASS-D in the present study was .91. Antony, Bieling, Cox, Enns, and Swinson (1998) provided support for construct validity through a positive correlation between scores on this scale and scores on another depression scale. Moreover, construct validity was also supported by a positive association between scores on this scale and scores on another depression scale among gay males (Zakalik & Wei, 2006).

Loneliness. The UCLA Loneliness Scale—Short version (UCLA-short version; Russell, 1996) was used to assess loneliness. The UCLA Loneliness-short version measures levels of loneliness in everyday life. A sample item is “How often do you feel that you lack companionship?” The instrument consists of 10 items, which were rated on a 4-point Likert scale ranging from 1 (never) and 4 (always). The possible total scores range from 10 to 40. Russell (1996) reported that the short version of UCLA Loneliness scale is a reliable scale with a coefficient alpha of .89 in a sample of adults and .90 in this study. In order to ease the process of completing the survey, this 10-item short version of UCLA Loneliness was used. Construct validity was supported by positive associations with depression and neuroticism as well as negative associations with social support and self-esteem (Russell, 1996). The original UCLA Loneliness was used with gay males and provided support for the construct validity by positive associations with earlier stages of LGB identity formation (e.g., identity tolerance) but a negative association with a later stage of LGB identity formation such as identity synthesis (Halpin & Allen, 2004).

PROCEDURE

Participants were recruited through two methods: by either online or in pencil and paper sampling methods. Online recruiting was completed through announcements in various universities’ LGBT organizations’ list-serves. Two to three universities were selected from each region across the continental United States (i.e., Midwest, Northeast, West, South Atlantic, and South Central). The coordinators of these list-serves were contacted with an email, which explained the study and contained a link to the actual survey itself. To participate in the study, participants must self-identify as lesbian
and be 18 years or older to participate. By completing the survey, participants indicated their consent to participate in this study. No identifying information was required. After the survey was completed, a debriefing form was provided.

The second method of data collection was through a paper and pencil survey administered to participants from a lesbian support group. Permission to collect data was obtained from the LGBT student organization leader at a Midwestern University. Participants could complete the survey at the group meeting or return the completed survey in the next meeting.

A total of 152 participants completed the online surveys and 13 completed paper pencil surveys. However, for those who completed the online survey, two indicated as transgender. These data were removed from the final analyses. Therefore, a final of 163 participants were used in the later data analyses.

RESULTS

DESCRIPTIVE STATISTICS

A series of t-tests were computed to see whether there were any significant differences in the seven measured variables between those who completed the Internet survey version and those who completed the paper-and-pencil survey version. No significant results (all \( p > 0.05 \)) were found, indicating that there were no differences due to different methods of data collection on any of the measured variables. Thus, the data collected from both groups were combined for the following analyses. Moreover, means, standard deviations, and zero-order correlations among the seven measured variables were shown in Table 1. The results support our predictions that both attachment anxiety and avoidance were significantly and negatively related to life satisfaction, but significantly and positively related to depressive symptoms and loneliness.

PATH ANALYSIS

The statistical package of the Mplus Version 5.0 program (Muthén & Muthén, 2007) was used to test the path model through the maximum-likelihood method. In order to examine whether our data met the multivariate normality assumption underlying the
### TABLE 1. Intercorrelations and Descriptive Statistics for Measured Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<tr>
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<td></td>
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<td>2. Attachment Avoidance</td>
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<td>-.35***</td>
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<td></td>
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<td></td>
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<td>-.25**</td>
<td>.33***</td>
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<td>.39***</td>
<td>.59***</td>
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<td></td>
<td></td>
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<tr>
<td>6. Depressive Symptoms</td>
<td>.40***</td>
<td>.29***</td>
<td>-.27**</td>
<td>-.53***</td>
<td>-.60***</td>
<td></td>
<td></td>
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<td>7. Loneliness</td>
<td>.59***</td>
<td>.41***</td>
<td>-.37***</td>
<td>-.70***</td>
<td>-.63***</td>
<td>.66***</td>
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</tr>
</tbody>
</table>

### Descriptive Statistics

- **M**: 3.40, 2.84, 6.13, 5.56, 4.68, .68, 2.24
- **SD**: 1.45, 1.50, .99, 1.01, 1.43, .66, .52

**Note.** *N* = 163. *p* < .05; **p** < .01; ***p*** < .001.
maximum-likelihood method, a multivariate normality test, developed by Mardia (see Bollen, 1989), was used. The normality test result showed that the data were not multivariate normal, $\chi^2 (2, N = 163) = 130.56, (p < .001)$. Thus, to adjust the impact of the nonnormality on the data, the corrected/scaled chi squared statistic was reported (Satorra & Bentler, 1988). Moreover, two goodness-of-fit indices were used to evaluate the model fit (Hu & Bentler, 1999). The first one is the comparative fit index (CFI) in which values of .95 or higher indicates that the model is a good fit to the data. The second is the standardized root-mean-square residual (SRMR) in which values of .08 or less suggest the model is a proper fit to the data. It is important to note that our hypothetical model (see Figure 1) is a just-identified (i.e., fully recursive, saturated) model. The just-identified model would have a perfect fit in the fit index values (e.g., $\chi^2 = 0$, CFI = 1.0, and SRMR = 0). Klem (1995) indicated that when a just-identified model was tested, magnitudes of the parameter estimates, rather than fit index values, are of interest. Therefore, as expected (see Table 2), the proposed hypothetical model was a perfect fit model with $\chi^2 (0, N = 163) = 0.00$, scaled $\chi^2 (0, N = 163) = 0.00$, CFI = 1.00, and the SRMR = .00.

Next, we examined the fully- and partially-mediated model in order to determine the best model through six alternative models. Our hypothetical model (see Figure 1 and Model A in Table 2) would be a partially-mediated model. The six alternative models (i.e., Models B to G) were conducted by constraining each of six direct paths to zero, one at a time. For example, in Model B, the direct path from attachment anxiety to loneliness was constrained to zero (see path a in Figure 1). This model was then compared with Model A. If the difference in chi-square between Model A (i.e., a partially mediated model) and Model B (i.e., a fully-mediated model) was significant, it indicated this direct path contributed significantly to the model. Then, this path would need to be kept in the model and Model A is a better model. This would in turn lead us to conclude

2. Because the data were not multivariate normal, we needed to adjust the impact of nonnormality. Therefore, we planned to use the Satorra-Bentle (SB) scaled chi-square difference test for the comparison of the two nested models. However, Model A is a perfect-fit model and thus the value of scaled chi-square is zero. When computing the SB scaled chi-square difference test (see http://www.abdn.ac.uk/~psy086/dept/psychom.htm), the value of scaled chi-square must be greater than zero. Thus, we were unable to use the scaled chi-square difference test for the nested model comparison. We instead used the standard chi-square difference test for the nested model comparison.
that the association between attachment anxiety and loneliness was partially-mediated by the mediators. Conversely, if the difference in chi-square between Model A (i.e., a partially mediated model) and Model B (i.e., a fully-mediated model) was not significant, it indicated that this direct path did not contribute significantly to the model. So, this path would need to be removed from the model and Model B would be a better model. In such case, it can be concluded that the association between attachment anxiety and loneliness is fully (or completely) mediated by the mediators.

In Table 2, when Model A was compared with Model B, C, D, or E, separately, the significant chi-square difference indicated that paths a, b, c, and d all contributed significantly to the model and needed to be kept. Therefore, Model A was a better model in these comparisons. However, when Model A and Model F (with path e to be constrained to zero) was compared to each other, chi-square difference was not significant, indicating that path e did not contribute significantly to the model and needed to be removed. Similarly, the result of comparison between Model A and Model G also indicated that path f did not contribute significantly to the model and needed to be removed. Finally, since paths e and f did not contribute to the model, a Model H (with constraining paths e and f) was created and then compared to Model A. The nonsignificant chi-square difference result indicated that Model A and Model H were not significantly different from each other. Based on parsimony principle, Model H was selected as the final best model (see Figure 2), which was used to test the significance of the indirect or mediation effects.

<table>
<thead>
<tr>
<th>Model</th>
<th>$\chi^2$</th>
<th>df</th>
<th>CFI</th>
<th>SRMR</th>
<th>Path Constrained</th>
<th>Models Compared</th>
<th>$\Delta \chi^2$</th>
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<td>a</td>
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<td>Model C</td>
<td>6.07*</td>
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<td>.99</td>
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<td>b</td>
<td>A vs. C</td>
<td>6.07*</td>
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<tr>
<td>Model D</td>
<td>7.90**</td>
<td>1</td>
<td>.98</td>
<td>.03</td>
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<td>A vs. D</td>
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<td>.03</td>
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<td>A vs. E</td>
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<td>A vs. F</td>
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<td>e and f</td>
<td>A vs. H</td>
<td>2.66</td>
</tr>
</tbody>
</table>

Note. $N = 163$. Bold indicates a best model. df = degrees of freedom; CFI = Comparative Fit Index; SRMR= Standardized Root-Mean-square-Residual. * $p < .05$; ** $p < .01$; *** $p < .001$. 

Table 2. Comparisons Among Different Alternative Models
In the final model (see Figure 2), among the significant paths, the magnitudes of the paths’ coefficients between attachment (i.e., anxiety and/or avoidance) and two mediators (i.e., positive feelings about being a lesbian and/or perceived general support from others) were small to moderate. The magnitude of the path coefficient between positive feelings about being a lesbian and life satisfaction was small, but the magnitudes of path coefficients between perceived general support from others and well-being (i.e., higher levels of life satisfaction, fewer depressive symptoms, and lower levels of loneliness) were moderate or large.

Moreover, about 16% of the variance in positive feelings about being a lesbian was explained by attachment anxiety and avoidance; 18% of the variance in perceived general support from others was explained by attachment anxiety; 44% of the variance in life satisfaction was explained by attachment anxiety, positive feelings about being a lesbian, and perceived general support from others; 31% of the variance of depressive symptoms was explained by attachment anxiety and perceived general support from others; 62% of variance in loneliness was explained by attachment anxiety, attachment avoidance, and perceived general support from others.

TESTING THE SIGNIFICANCE OF THE INDIRECT EFFECTS

Bootstrap was used to test the significance of indirect effects (e.g., MacKinnon, Lockwood, & Williams, 2004; Mallinckrodt, Abraham, Wei, & Russell, 2006; Shrout & Bolger, 2002) for the final structural model (see Figure 2). In Mplus, 1,000 bootstrap samples were requested to estimate the 18 mean indirect effects (e.g., attachment [i.e., anxiety and avoidance] → the mediator [i.e., positive feelings about being a lesbian and perceived general support from others] → well-being [i.e., higher levels of life satisfaction, fewer depressive symptoms, and lower levels of loneliness]; see Table 3 for all 18 indirect effects). MacKinnon et al. (2004) reported that the bootstrap confidence interval (CI) adjusted for bias showed the highest levels of statistical power. Thus, a 95% bias-corrected bootstrap confidence interval (CI) for the indirect effects was reported in this study. If the 95% CI does not include zero, the indirect effect is considered significant at the .05 levels. Table 3 showed that 11 indirect effects were significant.
<table>
<thead>
<tr>
<th>Indirect Effect</th>
<th>β (Standardized Path Coefficient and Product)</th>
<th>Mean Indirect-Effect (b)*</th>
<th>SE of Mean*</th>
<th>95% CI of bootstrap with bias correction for Mean Indirect Effecta (Lower, Upper)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attachment Anxiety → PfBL → Life Satisfaction</td>
<td>(.20) × (.16) = -.032</td>
<td>-.031</td>
<td>.019</td>
<td>-0.086, -0.004*</td>
</tr>
<tr>
<td>2. Attachment Avoidance → PfBL → Life Satisfaction</td>
<td>(.28) × (.16) = -.045</td>
<td>-.043</td>
<td>.031</td>
<td>-0.129, -0.002*</td>
</tr>
<tr>
<td>3. Attachment Anxiety → PfBL → Depressive Symptoms</td>
<td>(.20) × (.07) = .014</td>
<td>.006</td>
<td>.009</td>
<td>-0.008, 0.029</td>
</tr>
<tr>
<td>4. Attachment Avoidance → PfBL → Depressive Symptoms</td>
<td>(.28) × (.07) = .020</td>
<td>.008</td>
<td>.014</td>
<td>-0.009, 0.049</td>
</tr>
<tr>
<td>5. Attachment Anxiety → PfBL → Loneliness</td>
<td>(.20) × (.06) = .012</td>
<td>.004</td>
<td>.004</td>
<td>-0.002, 0.016</td>
</tr>
<tr>
<td>6. Attachment Avoidance → PfBL → Loneliness</td>
<td>(.28) × (.06) = .017</td>
<td>.005</td>
<td>.006</td>
<td>-0.004, 0.020</td>
</tr>
<tr>
<td>7. Attachment Anxiety → PGSO → Life Satisfaction</td>
<td>(.37) × (.46) = -.170</td>
<td>-.149</td>
<td>.046</td>
<td>-0.248, -0.067*</td>
</tr>
<tr>
<td>8. Attachment Avoidance → PGSO → Life Satisfaction</td>
<td>(.10) × (.46) = -.046</td>
<td>-.018</td>
<td>.042</td>
<td>-0.105, 0.060</td>
</tr>
<tr>
<td>9. Attachment Anxiety → PGSO → Depressive Symptoms</td>
<td>(.37) × (.41) = .152</td>
<td>.061</td>
<td>.021</td>
<td>0.027, 0.111*</td>
</tr>
<tr>
<td>10. Attachment Avoidance → PGSO → Depressive Symptoms</td>
<td>(.10) × (.41) = .041</td>
<td>.007</td>
<td>.017</td>
<td>-0.021, 0.050</td>
</tr>
<tr>
<td>11. Attachment Anxiety → PGSO → Loneliness</td>
<td>(.37) × (.53) = .196</td>
<td>.062</td>
<td>.019</td>
<td>0.030, 0.103*</td>
</tr>
<tr>
<td>12. Attachment Avoidance → PGSO → Loneliness</td>
<td>(.10) × (.53) = .053</td>
<td>.007</td>
<td>.017</td>
<td>-0.025, 0.041</td>
</tr>
<tr>
<td>13. Attachment Anxiety → PfBL → PGSO → Life Satisfaction</td>
<td>(.20) × (.22) × (.46) = -.020</td>
<td>-.020</td>
<td>.012</td>
<td>-0.050, -0.002*</td>
</tr>
<tr>
<td>14. Attachment Avoidance → PfBL → PGSO → Life Satisfaction</td>
<td>(.28) × (.22) × (.46) = -.028</td>
<td>-.027</td>
<td>.013</td>
<td>-0.060, -0.007*</td>
</tr>
<tr>
<td>15. Attachment Anxiety → PfBL → PGSO → Depressive Symptoms</td>
<td>(.20) × (.22) × (.41) = .018</td>
<td>.008</td>
<td>.005</td>
<td>0.001, 0.021*</td>
</tr>
<tr>
<td>16. Attachment Avoidance → PfBL → PGSO → Depressive Symptoms</td>
<td>(.28) × (.22) × (.41) = .025</td>
<td>.011</td>
<td>.005</td>
<td>0.003, 0.025*</td>
</tr>
<tr>
<td>17. Attachment Anxiety → PfBL → PGSO → Loneliness</td>
<td>(.20) × (.22) × (.46) = .023</td>
<td>.008</td>
<td>.005</td>
<td>0.001, 0.022*</td>
</tr>
<tr>
<td>18. Attachment Avoidance → PfBL → PGSO → Loneliness</td>
<td>(.28) × (.22) × (.46) = .033</td>
<td>.011</td>
<td>.006</td>
<td>0.003, 0.026*</td>
</tr>
</tbody>
</table>

Note. N = 163. PfBL = Positive Feelings about Being a Lesbian; PGSO = Perceived General Support from Others; CI = Confidence Interval; *95 % Confidence Interval does not include zero and therefore is significant at a p < .05.
To further explore whether the path coefficients of the final model were different between students and community adults, a multiple-group analysis was used (Kline, 1998). We used Model A rather than Model H for these analyses because of the possibility that paths found to be nonsignificant in the full sample might be significant for students and community adults. We compared these two models to see whether 17 structural paths would be equal or not between students and community adults. One model had 17 structural paths freely estimated. The other model had 17 structural paths constrained to zero. Then, these two models were compared through a chi-square difference test. If the chi-square difference test was not significant, it would indicate that the path coefficients were not different between these two groups. Conversely, if significant chi-square difference was found, it implied the path coefficients were different between these two groups. The result of the chi-square dif-
ference test, $\Delta \chi^2 (17, N = 163) = 25.67, p > .05$, indicated no significant difference between students and community adults.

**DISCUSSION**

Our findings contributed incrementally to the attachment and LGB literature on lesbian women’s well-being in three important ways. First, our results indicated both attachment anxiety and avoidance were moderately and negatively associated with life satisfaction and moderately and positively associated with depressive symptoms and loneliness (see Table 1). These findings responded to a call from Mohr (1999) that the inclusion of LGB sample in attachment research would lead to a broader understanding of adult attachment processes. Also, the previous limited literature that applied attachment theory to LGB samples mainly focused on the sexual identity developmental process. The current results expand the focus from sexual identity developmental process to the associations between attachment and indices of well-being, which included life satisfaction, depressive symptoms, and loneliness.

Second, the current findings partially confirmed our mediation hypotheses for attachment anxiety. We expected that positive feelings about being a lesbian would be a significant mediator for the associations between attachment anxiety and well-being (i.e., life satisfaction, depressive symptoms, and loneliness). However, our results indicated that positive feelings about being a lesbian was only a significant mediator between attachment anxiety and life satisfaction but not between attachment anxiety and depressive symptoms and loneliness. These results are consistent with previous relevant findings of the direct association between attachment anxiety and negative LGB identity (Mohr & Fassinger, 2003; Vanderschaaf, 2002; Wells & Hansen, 2003) and the direct association between positive LGB identity and life satisfaction (Fingerhut et al., 2005). More importantly, the current result goes beyond the previous relevant direct associations by demonstrating the mediating role of positive feelings about being a lesbian in the association between attachment anxiety and life satisfaction. To our thinking, perhaps, for lesbians with a higher level of attachment anxiety, positive feelings toward their own sexual orientation may be important for their perceived life satisfaction. However, possessing positive feelings toward their sexual orientation may not be associated with lower levels of de-
pressed feeling and loneliness. Possibly, the reported low levels of depressed feeling and loneliness by the current sample are more related to perceived low levels of general support from others.

Moreover, in terms of the hypothesized mediator of perceived general support from others, the results confirmed our mediation hypotheses for attachment anxiety. That is, lesbians with high levels of attachment anxiety perceived low levels of support from others, which was associated with lower levels of life satisfaction, more depressive symptoms, and higher levels of loneliness. This result is congruent with the theoretical prediction that those with a higher level of attachment anxiety may feel ambivalent about whether others are available to support them (e.g., Bowlby, 1982, 1988). Because of their ambivalent feelings, they may push others away even though they actually wish to be close to people. The act of pushing people away is likely to be associated with lower levels of life satisfaction and higher levels of depressive symptoms and loneliness. Empirically, this result is consistent with the previous result on the direct negative association between attachment anxiety and perceived social support among college students (Vogel & Wei, 2005) as well as the direct positive association between attachment anxiety and perceived rejection against their sexual orientation among gay males (Zakalik & Wei, 2006). In addition, the result is consistent with the direct positive associations between well-being and sexual identity support (Beals & Peplau, 2005) and perceived reassurance from others (Wayment & Peplau, 1995) among lesbians. Importantly, the results expand these direct associations to a more complex indirect association. The current result of perceived social support as a mediator in the link between attachment anxiety and well-being among lesbians is similar to the result found by Vogel and Wei among college students. As we discussed earlier, there were no studies that examined the link between attachment and perceived general support from others among lesbian individuals. Hence, this study adds a new piece of information to the application of attachment theory in a lesbian sample.

In addition to the mediation or indirect roles of the above two mediators, the direct associations of attachment anxiety with life satisfaction, depressive symptoms, and loneliness were significant (see Figure 2). However, it is important to note that the magnitudes of these direct associations were reduced to almost half of their original strengths after the addition of the mediators. Specifically, the zero-order correlations of attachment anxiety with life satisfaction,
depressive symptoms, and loneliness (rs = -.45, .40, and .59, respectively, see Table 1) were dropped to rs = -.22, .22, and .31, respectively (see Figure 2) after two mediators were added into the model. Thus, these two mediators can be concluded to play important roles in increasing life satisfaction and/or decreasing depressive symptoms and loneliness.

Surprisingly, perceived general support from others is not a significant mediator for lesbians with higher levels of attachment avoidance. We expected that attachment avoidance would be negatively associated with perceived general support from others. However, the present results indicated that there was no significant association between these two variables. Indirectly, this result is similar to Zakalik and Wei’s (2006) finding of a nonsignificant association between attachment avoidance and perceived discrimination from others among gay males. Perhaps, to our thinking, those with higher levels of attachment avoidance try to avoid thinking about whether others would support them. This may prevent them from feeling disappointed if they eventually find out that others in fact do not support them.

Even though we did not have specific hypotheses regarding the mediator of positive feelings about being a lesbian for the associations between attachment avoidance and the indices of well-being, we examined them for exploratory purpose. Similar to the result found for attachment anxiety, positive feelings about being a lesbian was a mediator in the association between attachment avoidance and life satisfaction. This result is similar to Mohr and Fassinger’s (2003) finding that LGB adults with high attachment avoidance hold negative LGB identity. As we know, anti-LGB environment in society is still prevalent. Therefore, lesbians with higher levels of attachment avoidance might still have negative feelings about being a lesbian, which was associated with a lower level of life satisfaction. This result is congruent with the LGB literature that the frequency of parental rejection due to sexual identity is related to poorer mental health (Ryan, Huebner, Diaz, & Sanchez, 2009).

Third, the results found that the associations between attachment anxiety and three indices of well-being were mediated by positive feelings about being a lesbian and then perceived general support from others. These results are consistent with the sexual identity model’s (Cass, 1979; Szymanski et al., 2008) perspective, which suggests that those with more negative feelings about being a lesbian may be less likely to reach out to others for support and in turn feel
less satisfied with their social support system. Also, these results are congruent with the previous findings that social support is a mediator between the negative personal feelings about being a lesbian and psychological distress among lesbian and bisexual women (McGregor et al., 2001; Szymanski & Kashubeck-West, 2008). Even though no hypotheses were made for attachment avoidance, the results found for attachment anxiety were also true for attachment avoidance. More importantly, the current results contribute to the sexual identity literature by adding the attachment perspective into it. That is, those with attachment anxiety and avoidance are likely to have negative feelings about being a lesbian. These negative feelings would hinder lesbians from reaching out to others, thereby resulting in decreased perception of support from others, which in turn is negatively related to their sense of well-being. Finally, an exploratory analysis (i.e., multiple-group analyses) revealed that our hypothetical model was not different between college students and community adults. These results strengthened the generalization of our mediation model.

LIMITATIONS, FUTURE RESEARCH DIRECTIONS, AND PRACTICAL IMPLICATIONS

There were some limitations that deserved our attention. First, we have attempted to use different methods (paper vs. online) to collect data and no differences were found in the results from these two methods. However, the high percentage of participants who completed their survey online may only represent those who are active on the internet or interested in this topic. Despite this limitation, the online surveys have the benefit of ensuring participants’ anonymity. Second, all the surveys in the current study were self-report measures. However, subjective feelings of their sexual orientations, perceived general support from others, and well-being is important information pertinent to lesbian women’s psychological health. Third, the majority of participants reported that they were out to their friends and about one third of them were out to their family or coworkers. We speculate that lesbians who are not out may have less positive feelings toward their sexual orientation than those who are out. The latter may therefore benefit less from their inner resource of positive feelings toward their identity for their well-being. Similarly, lesbians who are not out may perceive less
general support than those who are out; therefore, their perception of the lack of general support may hinder their sense of well-being. Finally, we invited those who identify themselves as lesbians and are 18 years or older to participate in this study. Therefore, it is not known whether those self-identified as “queer” also participated in this study. In future studies, invitation letters for recruiting participants should be more inclusive (e.g., inviting those who are lesbian, bisexual, queer, questioning, or those who may be attracted to women but feel that none of these identifications represent them).

The above two mediators partially mediated the associations between attachment anxiety and the indices of well-being. This means that other important mediators should be explored in these associations. One such possible mediator is perceived general support from others for one’s sexual orientation. The current study only measured perceived general support from others rather than perceived support for one’s sexual orientation. Beals and Peplau (2005) demonstrated the importance of identity support in enhancing life satisfaction and decreasing depressive symptoms. Future studies might explore whether perceived sexual identity support from others might mediate the association between attachment anxiety and well-being for lesbian women. Next, even though about 25% of participants were ethnic minorities, 75% of the participants identified themselves as White. Future studies need to replicate the current model with a more diverse sample before the results can be generalized to lesbians with an ethnic minority status. Finally, a future research study might design a longitudinal study to examine how attachment quality influences lesbians’ sense of well-being over time.

The current results have important practical implications. First, we need to understand the differential associations between attachment dimensions and positive feelings about being a lesbian and perceived general support from others among lesbians. For example, lesbians with higher levels of attachment anxiety are likely to feel negatively about being a lesbian and report insufficient support from others. Therefore, in the LGB outreach programs or workshops, presentations can help lesbian women to discuss their feelings about being a lesbian and encourage them build a positive attitude toward their sexual orientation. Also, because lesbians may perceive low levels of support from others, it might be important to ask them about their supportive social network and help them build a solid support system in individual clinical work. For those with
a higher level of attachment avoidance, clinicians can help lesbian women to become aware of their negative feelings of being a lesbian and the connection between these feelings and low life satisfaction. In addition, as we discussed above, those with a higher level of attachment avoidance might avoid thinking about whether or not others would support them in order to not feel disappointed. Hence, in the individual therapy, it might still be worthwhile to explore the underlying dynamic of their relationship with others. Second, there were strong direct associations between perceived general support from others and the indices of well-being in the present sample (see Figure 2) which highlighted the importance of perceived general support among lesbian women. In general support groups, group leaders can facilitate lesbian women to discuss their sexual orientation in a secure environment, to build positive feelings about being a lesbian, and to receive support from each other.

REFERENCES


