

Influence of Attitudes to Love on Leisure Involvement among Gay and Lesbian Citizens in Taiwan

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ABSTRACT—*This study first examines how love attitudes (Eros, Ludus, Storge Pragma, Mania, and Agape) and leisure involvement (self expression, attraction to leisure, and centrality to lifestyle) are related by using samples of gay and lesbian individuals. A questionnaire was developed by using latent variables, including love attitudes, leisure involvement, and demographic data. In total, 478 usable questionnaires were collected. Empirical results indicated that Eros positively and significantly influenced self expression, attraction to leisure, and centrality to lifestyle among gays and lesbians. The significant moderating effects on this population were also examined for Ludus, Storge, Pragma, and Mania impact leisure involvement between gays and lesbians. This study concludes that a higher tendency of love attitudes of gay and lesbian citizens towards Eros implies a greater increase in their leisure involvement.*

Keywords—Gay, lesbian, leisure involvement, love attitudes, Taiwan

1. INTRODUCTION

Gay and lesbian leisure activities have recently received considerable attention. Notable studies have focused on gay leisure space and homosexual identity (Hughes 1997; Markwell 1998), constraints on leisure spaces for lesbians (Pritchard et al. 2002), and leisure as a context for identity formation among young people whom are self-identified as lesbians/gays while in high school (Kivel & Kleiber 2000).

As an antecedent of leisure behaviours, leisure involvements have drawn considerable attention in leisure studies. Many scholars focus on the relationships between leisure involvements and other variables, such as place attachment (Kyle et al. 2003), behavioural intention (Lee & Chang 2012), commitments (Lee 2011), psychological commitments and loyalty (Iwasaki & Havitz 1998), as well as commitments of leisure institution providers (Kyle & Mowen 2005). Therefore, exploring leisure involvements should provide further insight into human leisure behaviour. Nevertheless, to our knowledge, exactly how gays and lesbians and leisure involvements are related has not been examined, warranting their further study.

Leisure attitude is another important antecedent variable of leisure activities and behaviours owing to its relationship with activity participation (Skowron et al. 2008), behavioural intention (Lee 2009), and behaviour (Lee 2007). Clarifying leisure attitudes improves understanding of active participation, behavioural intention, and human leisure behaviour. Meanwhile, Shaluhayah (2009) argued that Javanese youth with different love attitudes exhibit different levels of social activity/leisure behaviour, self-identity, and lifestyle. Gay and lesbian citizens have romantic and monogamous relationships similar to those of heterosexuals. Consequently, gay and lesbian citizens use leisure activities to generate their own self-identity and homosexual relationships (Hughes 1997). Relevant literature indicated that love attitudes significantly contribute to understanding homosexual behaviour (Feeny & Noller

1990). Exactly how love attitudes and leisure involvement of gay and lesbian citizens are related remains yet to be resolved.

To fill the above research gaps, this study explores how love attitudes and leisure involvement of gay and lesbian citizens are related. Empirical findings shed light on the leisure behaviour model of gay and lesbian citizens. Recommendations for future research are also provided.

2. LITERATURE REVIEW

2.1 Homosexual

Homosexuality is a normal variant in sexual behaviour relative to the norm of heterosexuality.

The sexual identity of homosexuals is a social construct rather than being biologically determined (Hughes 1997). Homosexuals recognize their differences from heterosexuals and prefer to spend their time in environments in which they are comfortable. In electing how to spend their leisure time, homosexuals are more focused on escape from heterosexism and safety than are heterosexuals (Pritchard et al. 2000). Moreover, homosexual spaces (or communities) emerge where homosexuals express themselves through developing or consolidating romantic relationships with other homosexuals (Hughes 1997). Additionally, homosexuals would rather frequent their own spaces when engaging in leisure activities based on social, culture, and relaxation considerations (Hughes 1997).

2.2 Leisure involvement

The involvement concept has also been widely discussed in leisure, recreation, and tourism literature, such as conceptualizing and testing the involvement construct (Havitz & Dimanche 1990, 1997), assessing the linear relationship between leisure involvement and place attachment (Lee & Shen 2013), and leisure/recreation involvement and psychological commitment (Iwasaki & Havitz 1998; Kyle & Mowen 2005). Leisure involvement represents the personal relevance of a specific leisure activity (Havitz & Dimanche 1997).

Havitz and Dimanche (1990) indicated that a multidimensional construct is appropriate for measuring involvement with leisure and recreation experiences. Some studies evaluated involvement by assessment based on the constructs of attraction to leisure, self expression and centrality to lifestyle (Kyle et al. 2003).

By using the structured equation model (SEM), many studies have examined the linear relationship between leisure involvement and place attachment (Kyle et al. 2003), psychological commitment and behavioural loyalty (Iwasaki & Havitz 1998), conservation commitment and environmentally responsible behaviour (Lee 2011), and satisfaction and loyalty intention (Lee & Chang 2012). Leisure involvement is thus an important factor to represent tourist experiences and explain their behaviour. However, to our knowledge, exactly how leisure involvement among gays and lesbians and love attitudes are related has not been examined.

2.3 Love attitude

The concept of attitude has been widely used to assess human behaviour, such as consumer behaviour, investor behaviour, leisure choice, and pro-environment behaviour (e.g., Aspara & Tikkanen 2008). According to the theory of planned behaviour, attitude refers to the extent to which an individual has a favorable or unfavorable evaluation towards an object (Ajzen & Driver 1991). Attitude tends to be positively related to behavioural intentions (Ajzen & Driver 1991) and future behaviour (Lee 2009).

Love attitude refers to the love style between lovers, and is essential for understanding attitudes towards love of those in romantic relationships (Hendrick & Hendrick 1986). Love attitude represents an emotional feeling which is aroused by cognitive processes (Berscheid & Walster, 1974) and subsequently develops an exclusive relationship (Walster & Walster 1978). The love relationship can last many years, and likely involves numerous different affective, cognitive, and behavioural components of love/experiences (Masuda 2003).

Lee (1973) first deconstructed the typology of love attitude into three primary types, i.e., Eros (romantic and passionate love), Ludus (game-playing love), Storge (friendship love) and three secondary love styles, i.e., Pragma (logic and shopping list love), Mania (possessive and dependent love), and Agape (all-giving and selfless love). Many studies have examined romantic relationships between couples by *conceptualizing* and measuring love attitudes among heterosexuals (Mallandain & Davies 1994; Hendrick & Hendrick 2002, 2006). However, love attitudes among homosexuals have seldom been examined, warranting a study focused on these six constructs.

The relationship between personality and love attitudes has been extensively studied (e.g., Mallanian & Davies 1994). Studies have suggested that love attitudes impact on relationship satisfaction (Hendrick 1988), sex attitudes (Hendrick & Hendrick 2002), commitment (Hendrick & Hendrick 2002), and respect (Hendrick & Hendrick 2006). Moreover, by assessing any association between the pattern of youth love styles and level of sociality, Shaluhyah

(2009) indicated that Pragma and Storge are mainly youth love styles and relate to the level of social activity/leisure behaviour, such as visiting night clubs, staying overnight with a lover, and watching pornography.

Homosexual couples are perceived as having less social support from family than heterosexuals have (Kurdek & Schmitt 1987); gay and lesbian couples typically enjoy more support from their friends than their family (Kurdek & Schmitt 1987; Kurdek 1988b). Owing to a lack of social support from family, homosexuals are likely to stay a homosexual-friendly place to maintain their relationships (Kurdek 1988a, 2005). High societal support is positively related to relationship quality and psychological adjustment (Kurdek 1988b, 2005). Despite easily leaving their relationships due to a lack of formal institutionalized barriers for homosexual couples, many gays and lesbians build and sustain durable relationships (Kurdek 2004).

Attitude consists of three components: cognition, affect, and behaviour (Kyle & Mowen 2005). Cognition is formed by belief, knowledge structures, perceptual responses, and thoughts (Kyle & Mowen 2005). On the basis of sexual identity, homosexuals understand the importance of developing relationships with their communities and subsequently participate in leisure activities which are satisfying and promote close relationship development. A behaviour component comprises overt actions, behavioural intentions, and verbal statements regarding behaviour (Kyle & Mowen 2005). Homosexuals tend to engage in leisure activities in homosexual-friendly places and generate affective bonding easily. As long as homosexuals participate in leisure activities continuously, in turn, learn about knowledge of such leisure activities, and purchase related equipment. In other words, the love attitude of homosexual couples may influence their leisure involvement. Accordingly, this study indicates that attitude can be considered as an antecedent of leisure involvement among homosexuals. This study presents the following research hypotheses.

H1: Eros positively and significantly affects the self expression of gay and lesbian citizens.

H2: Eros positively and significantly affects the attraction to leisure of gay and lesbian citizens.

H3: Eros positively and significantly affects the centrality to lifestyle of gay and lesbian citizens.

H4: Ludus positively and significantly affects the self expression of gay and lesbian citizens.

H5: Ludus positively and significantl affects the attraction to leisure of gay and lesbian citizens.

H6: Ludus positively and significantly affects the centrality to lifestyle of gay and lesbian citizens.

H7: Storge positively and significantly affects the self expression of gay and lesbian citizens.

H8: Storge positively and significantly affects the attraction to leisure of gay and lesbian citizens.

H9: Storge positively and significantly affects the centrality to lifestyle of gay and lesbian citizens.

H10: Pragma positively and significantly affects the self expression of gay and lesbian citizens.

H11: Pragma positively and significantly affects the attraction to leisure of gay and lesbian citizens.

H12: Pragma positively and significantly affects the centrality to lifestyle of gay and lesbian citizens.

H13: Mania positively and significantly affects self the expression of gay and lesbian citizens.

H14: Mania positively and significantly affects the attraction to leisure of gay and lesbian citizens.

H15: Mania positively and significantly affects the centrality to lifestyle of gay and lesbian citizens.

H16: Agape positively and significantly affects the self expression of gay and lesbian citizens.

H17: Agape positively and significantly affects the attraction to leisure of gay and lesbian citizens.

H18: Agape positively and significantly affects the centrality to lifestyle of gay and lesbian citizens.

3. METHODOLOGY

3.1 Research instrument

A questionnaire was developed to assess love attitudes and leisure involvement of gay and lesbian citizens. A pilot study was conducted via snowball sampling in the middle of October 2010, contacting with respondents was accomplished in the lesbian/gay community (i.e., Taiwan LesHand Association). Fifty three usable questionnaires were collected. Meanwhile, an academic scholar in leisure research and a psychoanalyst were interviewed to evaluate the content validity of the questionnaire. Each questionnaire item was assessed with item analysis, including Cronbach's alpha, percentage of missing data, mean, standard deviation, item discrimination, skewness, kurtosis,

relation coefficients, and factor loadings. Any item with two or more unacceptable criteria was removed and, thus, five items were deleted. Each questionnaire item was subsequently revised based on feedback from seven graduate students in a leisure major concerning its item comprehensibility. Consequently, a questionnaire was developed according to the above literature review, item analysis, assessment of two experts, and seven students that provided the face and content validity. The final questionnaire comprised three parts, as described below.

Love attitude-The section for love attitudes was based on the studies of Hendrick and Hendrick (1986) with love attitudes comprising Eros (seven items), Ludus (five items), Storge (six items), Pragma (five items), Mania (six items), and Agape (seven items). The item responses were scored based on a 7-point Likert scale, ranging from 1 for “strongly disagree” to 7 for “strongly agree”. Thus, a 36-item scale was developed to measure the love attitude of gay and lesbian citizens.

Leisure involvement-The section for leisure involvement was based on the findings of Kyle et al. (2003) and Lee (2011). The leisure involvement construct consists of self expression (3 items), attraction to leisure (5 items), and centrality to lifestyle (4 items). Item responses were scored based on a seven-point Likert scale ranging from 1 for “strongly disagree” to 7 for “strongly agree.” Thus, a 12-item scale was developed to measure the leisure involvement of gay and lesbian citizens.

Demographic variables-The section of *demographic variables* included gender, marital status, age, educational level, occupation, monthly income, and sexual orientation. Profiles of the respondents were created using these seven items.

3.2 Sampling survey

Samples of Taiwanese gay and lesbian citizens were collected using three sampling methods. In general, gay and lesbian citizens are a rare and hidden population in Taiwan. Since snowball sampling is a conventional means of generating an adequate sample from a rare and hidden population (Heckathorn 1997), seven homosexual societies were selected for data collection using the snowball sampling method from October 2010 to March 2011. Two hundred and seven useable questionnaires were collected using the above sampling method. Second, to collect diverse respondents, an on-site self-administrated questionnaire survey was conducted at the Taiwan LGBT pride parade on October 30, 2010. Eleven graduate students were hired and trained with research data collection methods (e.g., face-to-face questionnaire and efforts to reduce the refusal rate) to serve as research assistants and collect survey data. One hundred and fifty six useable questionnaires were collected using this method. Third, to collect the adequate samples, an on-site self-administrated questionnaire survey was conducted at a lesbian clothing shop (all the customers are lesbians; the questionnaire survey is permitted in this shop) and a night market from October 2010 to January 2011 using the convenience sampling in Hsinchu and Taichung City of northern and central Taiwan. One hundred and fifteen useable questionnaires were collected using this method. Consequently, a total of 478 usable questionnaires were obtained in this study.

3.3 Data analysis

Factor validity was assessed based on exploratory factor analysis of the multi-item dimensions of love attitudes and leisure involvement. Factors were extracted using principal axis factoring, in which only factors with eigenvalues exceeding one were retained. Four items were removed since their factor loadings were less than 0.5. After four items were deleted, the Cronbach’s alpha scores for the latent variables of Eros, Ludus, Storge, Pragma, Mania, Agape, self expression, attraction to leisure, and centrality to lifestyle were 0.84, 0.77, 0.90, 0.81, 0.79, 0.90, 0.81, 0.93, and 0.87, respectively. All scores exceeded the benchmark threshold of 0.70 (Nunnally & Bernstein, 1994), indicating that the instrument had satisfactory internal consistency.

A two-step approach for confirmatory factor analysis (CFA) and structural equation modeling was adopted as has been recommended by Anderson and Gerbing (1988). The CFA and SEM analyses were performed using LISREL 8.70 for Windows. First, the proposed model was examined using CFA to assess the effectiveness of the measurement model. The model fits, composite reliability, convergent validity, and discriminant validity of Eros, Ludus, Storge, Pragma, Mania, Agape, self expression, attraction to leisure, and centrality to lifestyle were then tested to examine the measurement model and ensure the quality of the assessment measurement model. Next, SEM analysis was performed to estimate all SEM parameters using the maximum likelihood method. Moreover, the direction and significance of the relationships were determined by testing all of the hypotheses simultaneously.

4. RESULTS

4.1 Respondents' profile

Briefly, 245 (51.3%) were gay and 233 (48.7%) were lesbian. Regarding the profiles of the gay individuals, 95.1% were unmarried; 58.0% were aged 21 to 30 years old; 70.1% had a bachelor's degree; 32.1% were students; and 39.2% earned monthly income of less than NT\$20,000 (1 US\$=30.08 NT\$ as of July 6, 2011). Regarding the profiles of the lesbian individuals, 98.3% were unmarried; 65.2% were aged 21 to 30 years old; 82.8% had a bachelor's degree; 56.8% were students; and 60.3% earned monthly income of less than NT\$20,000 (1 US\$ =29.61 NT\$ as of Feb 8, 2013).

4.2 Measurement model

The measurement model fits was assessed as follows. First, the Chi-square (χ^2) of the measurement model was 1466.5 and 1676.9 with 863 degrees of freedom for gay and lesbian samples respectively ($p < 0.001$), indicating that the measurement model did not fit well with the sample data. An attempt was then made to ensure an accurate assessment of the model's fitness by reassessing it through use of several other indices, including $\chi^2/\text{d.f.}$ (1.7 in gays and 1.9 in lesbians), the non-normed fit index (NNFI; 0.94 in gays and 0.93 in lesbians), the comparative fit index (CFI; 0.95 in gays and 0.94 in lesbians), the root mean square error of approximation (RMSEA; 0.05 in gays and 0.06 in lesbians), and the standardized root mean square residual (SRMR; 0.07 in gays and lesbians). Based on the above indices, the measurement model appeared to correlate well with the sample data (Jöreskog & Sörbom 1996).

In this study, the composite reliabilities of each construct in gays and lesbians were greater than 0.7, indicating that the latent variables had an acceptable internal consistency (Jöreskog & Sörbom 1996). Convergent validity refers to the ability of a scale's items to load on its underlying construct, in which an acceptable convergent validity is all factor loadings exceeded 0.5; in addition, t -values associated with each completely standardized loading exceeded 1.96 (Anderson & Gerbing 1988). All loadings had significant t -values ranging from 5.24 to 24.78. Except for one item which was 0.37, all other loadings were higher than 0.5. This study thus provided evidence of convergent validity. Discriminant validity refers to the extent to which measures of a given construct are unrelated to the constructs in the same model. All intercorrelations fell below the suggested threshold of 0.85 (Kline 2005), providing evidence of satisfactory discriminant validity.

4.3 Structural model

The most commonly adopted statistic is χ^2 , which evaluates the adequacy of the theoretical model; other fit indices, such as NFI, CFI, RMSEA, and SRMR, have also been applied to assess model fitness (Jöreskog & Sörbom, 1996). In this study, the χ^2 test ($\chi^2=1804.4$, $df=878$, $p < 0.001$ in gays and $\chi^2=2061.2$, $df=878$, $p < 0.001$ in lesbians) did not determine the goodness-of-fit of the model, possibly owing to the model complexity (Anderson & Gerbing, 1982). Nevertheless, other goodness-of-fit statistics, including χ^2/df (2.06 in gays and 2.35 in lesbians), NNFI (0.92 in gays and 0.91 in lesbians), CFI (0.93 in gays and 0.91 in lesbians), and RMSEA (0.07 in gays and 0.08 in lesbians), indicate an acceptable fit of the structural model.

According to SEM analysis, Eros positively and significantly influenced self expression (gays: $\beta = 0.34$, $p < 0.001$; lesbians: $\beta = 0.60$, $p < 0.001$), attraction to leisure (gays: $\beta = 0.25$, $p < 0.001$; lesbians: $\beta = 0.45$, $p < 0.001$), and centrality to lifestyle (gays: $\beta = 0.31$, $p < 0.001$; lesbians: $\beta = 0.43$, $p < 0.001$); thus, hypotheses 1, 2 and 3 are accepted. Ludus negatively and significantly influenced self expression ($\beta = -0.67$, $p < 0.001$), attraction to leisure ($\beta = -0.81$, $p < 0.001$), and centrality to lifestyle ($\beta = -0.73$, $p < 0.001$) for gays. Meanwhile, Ludus did not significantly impact self expression, attraction to leisure, and centrality to lifestyle for lesbians, leading to a rejection of hypotheses 4, 5, and 6. Storge positively and significantly influenced self expression ($\beta = 0.22$, $p < 0.001$), attraction to leisure ($\beta = 0.24$, $p < 0.001$), and centrality to lifestyle ($\beta = 0.18$, $p < 0.001$) for gays; however Storge did not significantly impact self expression, attraction to leisure, and centrality to lifestyle for lesbians, leading to the partial acceptance of hypotheses 7, 8, and 9. Pragma did not significantly impact self expression, attraction to leisure, and centrality to lifestyle for gays. Meanwhile, Pragma negatively and significantly impact attraction to leisure ($\beta = -0.15$, $p < 0.05$), yet did not significantly influence self expression and centrality to lifestyle. Thus, hypotheses 10, 11, and 12 are rejected. Mania positively and significantly influenced attraction to leisure ($\beta = 0.21$, $p < 0.01$) and centrality to lifestyle ($\beta = 0.22$, $p < 0.01$); however, Mania did not significantly influence self expression for gays. Mania negatively and significantly influenced self expression for lesbians ($\beta = -0.14$, $p < 0.05$). Thus, hypotheses 13, 14, and 15 are rejected. Finally, Agape did not significantly impact self expression, attraction to leisure, and centrality to lifestyle for both gays and lesbians, leading to rejection of hypotheses 16, 17, and 18.

5. DISCUSSION

This study first examined how love attitudes (Eros, Ludus, Storge, Pragma, Mania, and Agape) and leisure involvement (self expression, attraction to leisure, and centrality to lifestyle) are related by using samples of homosexual individuals. These latent variables can be assessed based on the relationships among these constructs to devise, for the first time, a theoretical behavioural framework for homosexual. Results of this study thus contribute significantly to a growing body of leisure literature on gay and lesbian citizens.

Despite the extensive use of conceptualization and measurement of love attitudes to assess the romantic relationships of heterosexuals (Hendrick 1988; Hendrick and Hendrick 1986, 2002, 2006; Mallandain and Davies 1994), love attitudes have rarely been examined for gay and lesbian citizens. This study examines the romantic relationships of gay and lesbian citizens in Taiwan by using the *conceptualization* and measurement of love attitudes. Based on the empirical analysis of EFA and CFA, this study demonstrates that six constructs (Eros, Ludus, Storge, Pragma, Mania, and Agape) of love attitudes can accurately reflect the love attitudes of Taiwanese gay and lesbian citizens. Hence, this study examines the love attitudes of gay and lesbian citizens in Taiwan for the first time, thus contributing significantly to current literature.

Eros represents strong physical attraction to leisure, intense emotions, and strong commitment between lovers (Hendrick & Hendrick 1986). Eros positively impacts commitment (Hendrick & Hendrick, 2002), relationship satisfaction (Hendrick 1988), and self-esteem (Mallanain & Davies 1994). Thus, Eros increases satisfaction and commitment of a couple's relationship that encourages heterosexual couples to participate in more activities, subsequently increasing leisure involvement. However, the conceptualization of Eros has seldom been studied in gay and lesbian citizens. Analytical results indicate that Eros impacts leisure involvement (self expression, attraction to leisure, and centrality to lifestyle), showing an original finding of this study.

Self expression, attraction to leisure, and centrality to lifestyle are the *conceptualization* and measurement of leisure involvement (Iwasaki & Havitz 1998; Kyle et al. 2003; Lee 2011); however, leisure involvement among gay and lesbian citizens has not been assessed. To our knowledge, this study assesses the leisure involvement of gay and lesbian citizens for the first time.

Our results indicate that Eros significantly and positively affects all constructs of leisure involvement, suggesting that Eros is an antecedent variable for use in accurately predicting leisure involvement among both gays and lesbians in Taiwan. Additionally, a homosexual with a greater amount of Eros is more likely to exhibit leisure involvement (i.e., self expression, attraction to leisure, and centrality to lifestyle).

Ludus represents lovers treating love as a game (Lee 1973; Hendrick & Hendrick 1986; Mallandain & Davies 1994). Ludus does not involve many emotions, a lower social desirability (Hendrick & Hendrick 1986), and avoidance of intimacy and commitment (Mallandain & Davies 1994). Ludus negatively influences relationship satisfaction (Hendrick 1988) and commitment (Hendrick & Hendrick 2002). Meanwhile, Ludus positively correlates with impulsivity and emotionality (Mallandain & Davies 1994). Thus, Ludus negatively affects the satisfaction and commitment of couple's relationship. In this study, Ludus negatively and significantly affected self expression, attraction to leisure, and centrality to lifestyle of gay, but did not significantly affect self expression, attraction to leisure, and centrality to lifestyle of lesbian. This empirical finding indicates that, in Taiwan, there exists a significant moderating effect between gay and lesbian citizens on the relationship between Ludus and leisure involvement.

Storge tends to merge love and friendship, thus contributing to an enduring relationship of couples (Hendrick & Hendrick 1986). Storge is positively correlated with romantic relationships, respect, commitment, and satisfaction (Hendrick & Hendrick 2002, 2006). Meanwhile, Mallandain and Davies (1994) indicated that Storge is negatively correlated with self-esteem (Mallandain & Davies 1994). In this study, Storge positively influences self expression, attraction to leisure, and centrality to lifestyle of gays, yet not lesbians, indicating a significant moderating effect between gay and lesbian citizens on the relationship between Storge and leisure involvement.

Pragma lovers take a logical approach to love and focus on relational criteria with the desired attributes of lovers (Lee 1973; Hendrick & Hendrick 1986; Mallandain & Davies 1994). Pragma has seldom been related to variables such as commitment, passion, and intimacy. This could possibly be owing to the sample of the study coming mainly from university students (Hendrick & Hendrick 1986). According to our results, Pragma did not significantly influence self expression, attraction to leisure, and centrality to lifestyle of gays, yet negatively affected attraction to leisure of lesbians. This finding suggests a significant moderating effect among gay and lesbian citizens.

Although Mania lovers resembled Eros lovers, such as in idealism and disclosure, they had a lower self-esteem than Eros lovers (Hendrick & Hendrick 1986). Moreover, Mallandain and Davies (1994) also supported the findings of Hendrick and Hendrick (1986), indicating that Mania was negatively correlated with self-esteem and positively correlated with impulsivity and emotionality. Meanwhile, Eros was positively correlated with self-esteem, impulsivity, and emotionality. In this study, the empirical finding for gays was similar to Eros' lovers, whereas

Mania positively influenced attraction to leisure and centrality to lifestyle. However, for lesbians, Mania negatively affected self expression. Consequently, the differences between gays and lesbians remain unexamined.

Agape represents an all-giving and altruistic love (Hendrick & Hendrick 1986). Scholars suggest that Agape is positively correlated with relationship satisfaction (Hendrick 1988), where Eros is also positively correlated with relationship satisfaction in heterosexuals (Mallandain & Davies 1994). However, in this study, Agape did not significantly influence self expression, attraction to leisure, and centrality to lifestyle of gay and lesbian citizens. This finding suggests that ethnic background and sexual orientation may contribute to the differences between gays and lesbians.

Despite its contributions, this study has several limitations that should be addressed in future research. First, the sample is drawn mostly from under 30 year-old (80%) subjects, which may not necessarily represent all gay and lesbian citizens in Taiwan. To obtain a more diverse and representative sample, other homosexual societies should be contacted, such as elderly or non-student groups. Whether data acquired from different populations reflect the same relationship between love attitudes and leisure involvement found in this study is of worthwhile interest. Second, this study assesses how love attitudes and leisure involvement are related among gays and lesbians. Analytical results indicate moderate effects between gays and lesbians. Future study should examine how love attitudes and leisure involvement are related by using random sampling of gays and lesbians individuals. Tests of factorial invariance across multiple groups should involve hierarchically ordering nested models. The invariance in the structural model, factor loading, residual error, and covariance should be more closely examined by using factorial invariance analysis (Byrne, 1993). Future studies should attempt to understand the invariance of measurement instrument and compare the four sub-populations with respect to love attitudes and leisure involvement of gay and lesbian citizens.

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