

## **From John Lee to John Gottman: Recognizing Intra- and Interpersonal Differences to Promote Marital Satisfaction**

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*Since Extension agents work with a variety of families, there is a desperate need to further our understanding of how to educate diverse communities on a family-related topic. Focused on assisting those teaching marital education to a diverse population, this study attempts to understand how individual differences impact relationship satisfaction and marital communication. Based on John Gottman's research on marital communication and John Lee's six love styles, 653 participants completed a survey to further understanding of the relationship between inter- and intrapersonal variables. Results revealed that marital communication and love styles accounted for 54.6% of the variance in marital satisfaction regardless of difference in demographics. Results of this study provide a resource for educators and practitioners to use with diverse clientele, while also emphasizing the need to understand both intra- and interpersonal variables when working with families.*

*Keywords:* John Gottman, John Lee, marriage education

Marriages are becoming an increasingly popular topic for education in Extension and research; articles with the word "marriage" in their title have amplified by approximately 48% in the last decade (Fincham & Beach, 2010). However, the breadth and scope of marital research makes it difficult to understand how to adjust marital education to fit the diverse needs of Extension agents. Rodrigues, Hall, and Fincham (2006) stated that the "first step in integrating existing research and exploring mechanisms is to define the relationship between intrapersonal variables and relationship-process variables" (p. 33). Thus, challenges associated with understanding how Extension agents educate others on improving marital quality in diverse communities includes limited research being focused on the linkage between communication, individual differences, and relationship outcomes (Schneewind & Gerhard, 2002). In an attempt to fulfill this recommended need, the present study will investigate both intra- and interpersonal variables to determine their predictive power toward marital satisfaction and, potentially, the usefulness of this approach in Extension education. Specifically, John Lee's (1973) six love styles will be used as a framework to understand the influence of psychological variables, and John Gottman's (1994) communicative techniques will be used to interpret interpersonal factors.

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## Conceptual Models

### Psychological Framework

In 1973, John Lee formed a framework in an attempt to understand what individuals desire in romantic relationships. Resulting from an analysis of over 4,000 written descriptions and 200 interviews with individuals, Lee quantified definitions associated with love into three primary (*eros*, *ludus*, and *storge*) and three secondary (*mania*, *pragma*, and *agape*) love styles. The breadth of these love styles and their ability to encompass numerous other approaches that tried to conceptualize love attests to the internal validity of his concept. For example, Hahn and Blass (1997) noted that connections could be drawn between Lee's (1973) *manic* (obsessive) and *agape* (selfless) love styles to Sternberg's (1987, 1988) *infatuation* and Clark and Mills' (1979) *communal love*, respectively.

**Primary styles.** The *eros* love style is known as a passionate love that typically forms from a deep and immediate physical attraction. *Eros* has been termed as the “most consistent predictor of marital satisfaction,” regardless of gender or ethnicity (Contreras, Hendrick, & Hendrick, 1996, p. 412) and is positively related to intimacy, passion, commitment, and relationship satisfaction (Hendrick, Hendrick, & Adler, 1988; Levy & Davis, 1988; Morrow, Clark, & Brock, 1995).

People that fall into the category of a *ludus* love style tend to view relationships as a game and are more comfortable with the idea of pursuing or maintaining multiple relationships simultaneously (Lee, 1973). This style has been shown to negatively relate to marital satisfaction (Inman-Amos, Hendrick, & Hendrick, 1994; Kanemasa, Taniguchi, Daibo, & Ishimori, 2004), mostly due to the use of negative techniques such as avoidance, withdrawal, or denial (Hensley, 1996; Richardson, Hammock, Lubben, & Mickler, 1989).

The final primary love style, *storge*, has been termed as the friendship style of love (Lee, 1973). *Storgic* lovers develop their relationships slowly (i.e., to establish a friendship first), so they have also been found to positively relate to the measurement of conscientiousness, while negatively relating to impulsivity (White, 2003; White, Hendrick, & Hendrick, 2004).

**Secondary styles.** *Agape* is considered a hybrid of both the *storge* and *eros* love styles. The *agapic* style has been described as a selfless approach to love due to these lovers being extremely forgiving, supportive, and committed to their partners (Hahn & Blass, 1997; Hallett, 1989). It has shown to positively correlate with relationship satisfaction and commitment (Aron & Westbay, 1995; Hendrick et al., 1988; Lin & Huddleston-Casas, 2005), as well as intimacy and passion (Levy & Davis, 1988; Morrow et al., 1995).

*Pragma* lovers are characterized as making rational decisions of whether or not to enter a relationship because of personal or social compatibility (Hahn & Blass, 1997). Viewed as a hybrid between *storge* and *ludic*, these lovers emphasize compatibility on characteristics such as religion, family values, and education. *Pragma* lovers have revealed a negative correlation between love and openness (White, 2003), while positively relating to religiosity and conscientiousness (Hendrick & Hendrick, 1987; White, 2003).

The final love style is seen as a combination of *eros* and *ludus* and is characterized by a need for a great deal of attention and affection (Lee, 1973). The *manic* lover takes a rapid progression toward intimacy due to the desire for an all-encompassing relationship. Common characteristics of this love style include being obsessive, jealous, and emotional (Hahn & Blass, 1997).

### **Interpersonal Framework**

John Gottman's work surrounding marital communication is well-known in current literature (e.g., Busby & Holman, 2009; Gubbins, Perosa, & Bartle-Haring, 2010). Although there is some controversy associated with his research (see DeKay, Greeno, & Houck, 2002; Heyman & Hunt, 2007), his findings have resulted in the ability to predict the permanence of marriages with only 10% error. In particular, he found that the use of four attitudes—or *Four Horsemen* (i.e., criticism, contempt, defensiveness, and stonewalling)—seemingly forecasted relationship failure with great accuracy (Gottman, 1994).

**Negative communication.** *Criticism* is the technique of verbally attacking one's partner based on his or her personality and/or character; this form of communication usually occurs because of the need to convince oneself that the partner is at fault (Gottman, 1994). The second technique is classified as *defensiveness* and typically coincides with complaining or criticism. This horseman involves an individual who is not able to place oneself in the partner's position and, thus, is unable to view another as the victim. *Contempt* involves attacking a partner's sense of self by insulting or verbally abusing them and can include sarcasm, insults, or name-calling. The final of the four horsemen, *stonewalling*, is defined as someone withdrawing completely from the conflict and can include ignoring, being unresponsive, or emotionally distant.

### **Research Hypotheses**

Although research on love styles has been prominent (for review, see Hendrick, 2004), little research has been done to examine the relationship between love styles and negative relational maintenance behaviors (Goodboy & Myers, 2010) and their potential impact in Extension settings. In fact, most studies that have analyzed psychological variables with relationship maintenance have used the "Five Factor Mode of Personality" (i.e., neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness) and have disregarded configural

or typological approaches (Feeney & Noller, 1996; Furman & Flanagan, 1997). Only one study known to the authors has attempted to find this connection (i.e., Goodboy & Myers, 2010), and although limitations were present, a relationship was found between the love styles and negative relational behaviors, such as jealousy, avoidance, and infidelity. Due to the impact that understanding individual differences can have on teaching marriage education, the present study investigated the following research question: How do communication techniques used during marital conflict and the definition of love impact marital satisfaction? Specifically, we tested the following hypotheses:

H1: *Ludic* and *manic* love styles will inversely relate to marital satisfaction.

H2: *Agapic*, *erotic*, *storgic*, and *pragmatic* love styles will relate positively to marital satisfaction.

H3: Gottman's Four Horsemen will inversely relate to marital satisfaction.

H4: After controlling for length of marriage, Gottman's Four Horsemen and Lee's love styles will have predictive power of marital satisfaction.

## Method

### Procedure

A survey was mailed to 300 individuals in randomly selected households from two large urban populations in a southeastern state. The contact information was obtained from the United Postal Services. All respondents were over the age of eighteen, and only those who had been married qualified for the study. No additional restrictions were placed on respondents based on their race, gender, or age.

The survey design followed procedures suggested by Dillman, Smyth, and Christian (2009). To begin, a brief pre-notice letter was sent to the respondents a few days prior to the official invitation to participate. It noted that an invitation for an online questionnaire would arrive in a few days and that the person's response would be greatly appreciated. A questionnaire mailing was then sent that included a detailed cover letter explaining why a response was important, as well as instructions for how to complete the questionnaire online, and information for how to win \$100. A thank you postcard was sent one week after the questionnaire mailing. This mailing expressed appreciation for responding and indicated that if the questionnaire had not yet been completed, it was hoped that it would be done soon. Finally, an invitation for a replacement questionnaire was sent to nonrespondents 2 to 4 weeks after the original questionnaire mailing. It indicated that the person's questionnaire had not yet been completed and urged the recipient to respond. The response rate was lower than expected (13%), so additional recruitment was done by (1) sending a link to the survey to all Directors of Graduate Studies at a southeastern college requesting that they forward it to their students and (2) creating an event on Facebook inviting members to take the survey.

## Sample

The three sampling techniques (i.e., mail, email, and Facebook) resulted in 653 individuals that were currently married (see Table 1 for summary). Of those participants, sixty-six (10.1%) had been married before, with a majority (83.1%) of those on their second marriages. The average length of time that the participants stated knowing their current spouse was a little under 15 years (*Min* = 1.00 years; *Max* = 66.00 years; *SD* = 10.10 years), while the mean for being married was almost 11 years (*Min* = 1.00; *Max* = 64.00; *SD* = 10.03). A small minority (.5%) noted that they were in an open marriage (e.g., swingers) while a few others (1.9%) stated that they were homosexuals; the remaining participants categorized themselves as being in a heterosexual and monogamous relationship.

**Table 1. Overall Demographics (N = 653)**

Variable	% (n)			
<b>Married Before</b>				
No	89.9 (587)			
Yes	10.1 (66)			
<b>Number of Times Married</b>				
2	83.1 (54)			
3	1.1 (7)			
4+	.7 (4)			
<b>Type of Marriage</b>				
Heterosexual	97.4 (630)			
Homosexual	1.9 (12)			
Open	.5 (3)			
<b>Gender</b>				
Female	72.2 (467)			
Male	27.4 (177)			
<b>Ethnicity</b>				
Caucasian	91.9 (591)			
Asian	3.3 (20)			
African American	2.5 (15)			
Hispanic	1.7 (10)			
Native American	1.5 (9)			
Multicultural	1.5 (9)			
Other	1.7 (10)			
	<i>Mean</i>	<i>Min</i>	<i>Max</i>	<i>SD</i>
Years Married	10.78	1.00	64.00	10.03
Known Spouse	14.74	1.00	66.00	10.10
Age	36.81	22.00	89.00	10.99

A majority of the participants were female (72.2%) and Caucasian (91.9%). Almost equal representation was found among Asians (3.3%), African Americans (2.5%), Hispanics (1.5%), and Native Americans (1.5%). Multicultural (1.5%) and “Other” ethnicities (1.7%) were also presented as options, though it should be noted that the participants were able to select more than one category. The average age of the participants was almost 37 years, with a minimum of 22 and a maximum of 89 years.

Religiosity was assessed by how regularly participants attended religious services. This category resulted in the most diverse demographics and included 44.2% that attended church once a week and almost equal variance between rarely (18.9%), once a month (15.6%), and never (13.0%). The remaining participants stated that they only attended services on important holidays (7.6%). Financial status was gauged by how comfortable the participants felt with their current financial situation; a majority felt secure (70%), followed by insecure (19.2%), very secure (8.8%), and very insecure (1.5%).

## Measures

**John Lee’s love styles.** *The Love Attitudes Scale (LAS): Short Form* was developed by Hendrick, Dicke, and Hendrick (1998) to examine the six love types of individuals based on Lee’s (1973) *Color of Love Theory*. LAS-Short Form consists of 18 items with a 5-point Likert Scale (1 = *Strongly Agree*; 5 = *Strongly Disagree*). Three items in the scale represent each of the six major love styles. Prior reported test-retest reliabilities ranged from .60 to .78 (Hendrick & Hendrick, 1986) and alpha ranged from .62 to .88 (Hendrick et al., 1998). Similarly, Cronbach’s alphas for the present study were: *Eros* = .71, *Ludus* = .57, *Storge* = .78, *Pragma* = .54, *Mania* = .63, and *Agape* = .68.

**Gottman’s Four Horsemen.** The questionnaire used to analyze Gottman’s Four Horsemen was obtained from Busby, Holman, and Taniguchi’s (2001) research on premarital and marital couples and was found to be comparable to Gottman’s observational research (Holman & Jarvis, 2003). The participants were given 11 questions to assess their use of contempt/defensiveness, criticism, and stonewalling with contempt and defensiveness being combined due to the two being “different sides of the same coin” (p. 273). The authors’ replaced their stonewalling variable with the name *withdrawal* to assist those not familiar with Gottman’s work in understanding this technique; for this study, the variable will be renamed *stonewalling* to prevent confusion in the analysis section. These items were ranked on a 5-point scale anchored by 1 = *Never* and 5 = *Very Often*. Example items included “I feel attacked or criticized when we talk about our disagreements” for criticism and “I sometimes just clam up and become quiet” for stonewalling.

After checking the reliability of Gottman's scale and subscales, one item was found to be inconsistent in interpreting the contempt subscale (i.e., corrected item-total correlation was .002): "I've found that during an intense argument it is better to take a break." Eliminating this question from the subscale increased Cronbach's alpha from .509 to .658. Assessing the reliability of questions associated with criticism resulted in a similar challenge; the question "let[ing] my partner have it full force" had a corrected item-total correlation of .249. Unfortunately, there were only three questions assessing this variable, and the change in Cronbach's alpha was minimal (i.e., .07). So, we did not eliminate this question. Cronbach's alpha, therefore, resulted in .528 for criticism and .746 for stonewalling. The remaining ten questions of the overall scale produced Cronbach's alpha of .837.

**Measure of relationship satisfaction.** The Revised Dyadic Adjustment Scale (RDAS) was chosen over the Dyadic Adjustment Scale (DAS) because of its brevity (18 fewer items than the original DAS), multidimensionality, and ability to distinguish between distressed and nondistressed individuals and relationships (Busby, Christensen, Crane, & Larson, 1995; Spanier, 1976). The RDAS consisted of 14 items that provided a total score and three subscores: *dyadic consensus* (the degree to which couples agree on matters of importance to their relationship), *dyadic satisfaction* (the degree to which couples are satisfied with their relationship), and *dyadic cohesion* (the degree of closeness and shared activities experienced by couples). RDAS scores ranged from 0-48 with "distressed relation" having the lowest score. The instrument has shown high internal consistency ( $\alpha = 0.90$ ) and construct validity (Busby et al., 1995). In the present study, the following Cronbach's alphas were found for the subscales and for the overall questionnaire: *Consensus* = .77, *Satisfaction* = .82, *Cohesion* = .76, and *Total* = .87.

## Results

### Preliminary Analysis

There was some concern regarding demographic differences associated with the three recruitment methods, so we completed a one-way between-groups analysis of variance to explore the impact of recruitment method on years married, years knowing the spouse, and age, while a Chi-square was performed on gender. Subjects were divided into three groups according to the recruitment technique used for their participation (Group 1: Mail, Group 2: Facebook, Group 3: Email). There was a statistically significant difference at the  $p < .05$  level in all three variables of interest between mailing the survey and Internet recruitment: (1) years married:  $F(2, 642) = 19.90, p < .000$ ; (2) years known spouse:  $F(2, 640) = 14.86, p < .000$ ; and (3) age in years:  $F(2, 640) = 27.49, p < 0$ . Despite reaching statistical significance, the actual difference in mean scores between the groups was not extremely large. The effect size, calculated using  $\eta^2$ , was .05 for years married, .04 for years knowing the spouse, and .08 for age in years. Post-hoc

comparisons using the Tukey HSD test indicated that the mean scores for Group 1 when compared to Groups 2 and 3 were significantly different on all three variables, but not between Group 2 and Group 3. Finally, the Chi-square test for independence with gender indicated significant associations between gender and recruitment method,  $X^2(2, n = 647) = .243, p = .38.23, \phi = .243$ .

Furthermore, prior research suggests that there may be gender differences that could cause a spurious relationship. For example, *agape* has been found in at least one study to be more common in women (Davies, 2001) while manic lovers were found to be more likely men (White et al., 2004). Thus, independent sample *t*-tests were performed to analyze the differences between the RDAS and LAS scales with gender. There were significant differences found with LAS scores for males and females on the variables *ludus* ( $p < .05$ ), *pragma* ( $p < .01$ ), and *agape* ( $p < .001$ ). However, the difference in mean scores and the resulting  $\eta^2$  for *ludus* and *pragma* showed that the differences were actually very small (mean difference =  $-.47$  and  $.60$ ,  $\eta^2 = .01$  and  $.01$  respectively). Conversely, the magnitude of the difference between the means of *agape* (mean difference =  $-1.61$ , 95% *CI*:  $-2.04$  to  $-1.20$ ) were moderately high ( $\eta^2 = .09$ ), which is why the variable *agape* was divided by gender in the primary analysis. No significant differences were found between gender and RDAS scores. In addition to the above analysis of variables, race, age, and times previously married were tested, but did not show any influence that would impact the primary analysis.

### Primary Analysis

To begin looking for a relationship between marital satisfaction, Lee's love styles, and Gottman's negative communicative techniques, a Pearson correlation matrix was calculated with results presented in Table 2. There was a strong, positive correlation between the *consensus* subscale and the RDAS overall score with *eros* ( $r = .51$  and  $.56$ , respectively,  $p < .001$ ). Although not as powerful, a significant correlation was also found between *eros* and the degree of closeness and satisfaction within the relationship ( $r = .16$  and  $.28$ , respectively,  $p < .01$ ).

The correlation between *agape* males and the RDAS resulted in moderate correlations with *consensus* and *RDAS Total*; the more likely the male agreed with being a selfless lover, the higher the likelihood of marital happiness and consensus on important matters (i.e.,  $r = .38$  for *consensus* and  $r = .41$  for *RDAS Total*). Similar findings were found with *agape* females, but were not as strong, with  $r = .24$  for *consensus* and  $.25$  for *RDAS Total*. Although the overall score from the RDAS was positively correlated with four of the six love styles (exception of *ludus*,  $r = -.28$  and *pragma*,  $r = -.02$ ), only *eros* and *agape* males resulted in a strong relationship by Cohen's (1988) standards ( $r = .56$  and  $.41$ , respectively).

**Table 2. Pearson Correlations between Measures of Marital Satisfaction with Lee’s Love Styles and Gottman’s Four Horsemen (n = 572)**

Scale	Consensus	Satisfaction	Cohesion	RDAS Total
Eros	.51**	.16**	.28**	.56**
Ludus	-.23**	-.14**	-.18**	-.28**
Storge	.10*	.08	.09*	.14**
Pragma	.03	.07	-.05	-.02
Mania	.01	-.04	-.05	.01
Agape	.38**	.05	.18*	.41**
(Male)				
Agape	.24**	.11*	.08	.25**
(Female)				
Contempt	-.45**	-.18**	-.27**	-.53**
Criticism	-.45**	-.09*	-.25**	-.56**
Stonewall	-.48**	-.22**	-.33**	-.60**

\*  $p < .05$ , \*\*  $p < .01$

The Pearson correlation matrix demonstrated a stronger relationship between Gottman’s Four Horsemen and RDAS. In general, the negative techniques described by John Gottman resulted in a moderate to strong negative relationship with the RDAS measurements; the exception was with the subscale *satisfaction*. Although a significant negative relationship was found between the Four Horsemen and this subscale, the relationship was weak (*contempt/defensiveness* = -.18, *criticism* = -.09, and *stonewall* = -.22).

To further our understanding of the relationship between Lee’s love styles and Gottman’s communicative techniques, a Pearson correlation matrix was also calculated between these two scales (see Table 3). Negative and significant relationships were found with *eros* and *agape* when compared to all of Gottman’s Horsemen. Significant, positive relationships were found with *ludus* and *mania* with the exception of *mania* and *criticism* (i.e.,  $r = .06$ ). *Pragma* did not show a significant relationship with any of the communicative techniques.

**Table 3. Pearson Correlations between Measures of Lee’s Love Styles and Gottman’s Four Horsemen (n = 572)**

Scale	Contempt	Criticism	Stonewall
Eros	-.30**	-.34**	-.39**
Ludus	.20**	.28**	.30**
Storge	-.12**	-.06	-.14**
Pragma	-.02	.04	.05
Mania	.16**	.06	.09*
Agape	-.12**	-.25**	-.13**

\*  $p < .05$ , \*\*  $p < .01$

Hierarchical multiple regression was used to assess the ability of John Gottman's Four Horsemen and John Lee's six love styles to predict marital satisfaction (as measured by *RDAS Total*), after controlling for the amount of time married. Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity, multicollinearity, or homoscedasticity occurred. Length of marriage was entered in Step 1, explaining 1.5% of the variance in marital satisfaction. After the entry of Gottman's Four Horsemen at Step 2, the total variance explained by the model as a whole was 45.2%,  $F(4, 566) = 29.40, p < .001$ . The added variables explained an additional 43.7% of the variance in marital satisfaction, after controlling for years married,  $R^2$  change = .44,  $F$  change (3, 566) = 150.23,  $p < .001$ . In Step 3, Lee's love styles were entered with the total variance explained by the model as a whole being 54.6%,  $F(10, 560) = 67.38, p < .001$ . The added variables explained an additional 9.4% of the variance in marital satisfaction, after controlling for years married and Gottman's Four Horsemen,  $R^2$  change = .10,  $F$  change (6, 560) = 19.45,  $p < .001$ . In the final model, all of Gottman's Horsemen were statistically significant, with *criticism* ( $beta = -6.79, p < .001$ ) and *stonewall* ( $beta = -5.49, p < .001$ ) showing higher beta levels than *contempt/defensiveness* ( $beta = -.14, p < .001$ ). Of John Lee's six love styles, only *eros* was found significant with  $beta = 9.41 (p < .001)$ .

## Discussion

To begin fulfilling the need of understanding the connection between intra- and interpersonal variables with marital satisfaction and how they can be utilized in an Extension setting, questionnaires that could be used in education were provided to participants in an online survey. In particular, communicative techniques and one's personal definition of love were measured and compared to happiness in marriage. Assessing interpersonal variables, significant negative relationships were found between Gottman's negative communicative techniques (i.e., contempt/defensiveness, criticism, and stonewall) and marital satisfaction. In particular, the overall score on the RDAS and the *consensus* subscale resulted in the strongest relationships with Gottman's Four Horsemen. This finding supports the existing literature of a negative relationship being found with negative communicative patterns, and marital happiness/consensus on important matters (Gottman, 1994). By providing students with Holman and Jarvis' (2003) measurement of Gottman's communicative techniques, extension agents will be able to focus on the specific challenges that their students are having during marital conflict. This is particularly valuable information due to the challenges of observing such conflict in a marital education program.

Further supplementing existing research (e.g., Hensley, 1996; Montgomery & Sorell, 1997), the love style that views love as a game (i.e., *ludic*) resulted in a significant negative relationship (i.e.,  $-.28$ ) with the overall score from the RDAS. The findings for *eros*—the passionate love style—also produced unsurprising results of a positive significant relationship with all variables used to assess marital satisfaction (e.g., Contreras et al., 1996). Thus, the overall relationships

found between the love styles and marital happiness supported current research, but two styles resulted in findings that differed from existing literature: *pragma*,  $r = -.02$  and *mania*,  $r = .01$ . The lack of significant findings and negative relationship with the *manic* and *practical* love styles could possibly be due to the reliability of the questionnaire (i.e., Cronbach's alpha = .63 and .54, respectively). Thus, hypotheses 1, 2, and 3 can generally be supported with some hesitation in regards to the pragmatic and manic love styles. Once again, Extension agents will be able to use this information in an educational setting to specify what challenges their students might be having in their relationship.

The present study's true contribution to current literature, though, is the association found between both inter- and intrapersonal variables to marital satisfaction and its ability to be used in a practitioner setting. In assessing the predictive power of Gottman's Four Horsemen (i.e., interpersonal) and Lee's love styles (i.e., intrapersonal) with marital satisfaction, a model that included the amount of time married, the use of Gottman's communicative techniques, and Lee's styles accounted for 54.6% of the variance in marital satisfaction. Although the overall model was found to be significant, only Gottman's Horsemen and *eros* were found to be independently significant in the final model. These particular findings were also supported by the significant relationships found in the aforementioned regression analyses.

Regardless of this slight limitation, the usefulness of these two measurements for Extension agents is hard to deny. Educators can use these tools to enlighten them on the specific needs of their audience regardless of the diversity present. By giving these two simple measurements, agents will be able to assist in increasing their students' marital satisfaction by educating them on Lee's love styles and Gottman's communicative techniques.

### **Strengths, Limitations, and Further Research**

Gender differences were found with the recruitment method performed (i.e., mail, Facebook, or email) with females being more likely to respond to the online form of recruitment. This was particularly interesting due to Dillman et al.'s (2009) finding that females were, overall, more likely to respond to requests to participate in research. A speculated reason for this difference may be due to females being more likely to use Facebook for interpersonal communication (Weiser, 2000) and the email being sent to a university that has more female than male graduate students (Institutional Research, Planning, & Effectiveness, 2011).

In addition, the questionnaires used to measure Gottman's Four Horsemen and John Lee's love styles had some concerning results in regards to their validity. For example, even after eliminating one question, the variable *contempt/defensiveness* resulted in a Cronbach's alpha of .658 while the other two variables (*criticism* and *stonewall*) were .528 and .658 respectively. This method of analyzing Gottman's techniques is relatively new to the field and begs for more

clarity. Furthermore, the measurement of four of John Lee's six love styles did have a respectable amount of validity (i.e.,  $<.62$ ); *ludus* and *pragma*, on the other hand, resulted in alphas less than .58. It is speculated that the placement of this particular questionnaire (i.e., at the end of over ten different measurements) may have impacted the lack of consistency in measuring what the variables were intended to measure.

Thus, the resulting relationship between marital satisfaction and Lee's love styles support existing data, but the power of the relationship provides some hesitation in regards to the overall validity of this analysis. Nonetheless, the ability of Gottman's Four Horsemen and the love styles to account for a large amount of variance in marital satisfaction justifies the need for educators, practitioners, and researchers to understand both the intra- and interpersonal variables present in married couples. By utilizing components—such as the *Love Attitudes Scale*—that can assist in understanding individual differences, the impact educators can have on their students will increase greatly.

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