Measuring Positive Emotionality: A Review of Instruments Assessing Love

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Abstract:
Love is a multidimensional construct that has proven difficult to define and, consequently, challenging to measure. A variety of available instruments purport to measure aspects of love, 9 of which are reviewed and discussed in this article. Researchers and practitioners are advised to study definitions of the love construct as well as psychometric properties of instruments in selecting measures of love appropriate to their purposes.

Article:
The importance of love has been acknowledged for centuries in the writings of philosophers (e.g., Plato), theologians e.g., St. Paul, 1 Corinthians), and scholars (e.g., Maslow) (O'Sullivan & O'Leary, 1992). Yet love consistently has been defined as somewhat of “a mystery” (Jung, 1961, p. 353) "with which we are psychologically preoccupied" (Powell, 1978, p. 14). Early researchers in the last century explained love as a unidimensional construct reflecting interpersonal attraction and viewed liking and loving as the anchors of a linear continuum (Huston, 1974): others considered movement on the continuum to be the result of interpersonal attraction, the latter consisting of cognitive, affective, and behavioral components (Berscheid & Walster, 1978). Lee's (1977) typology of six love styles has dominated much of the theory and research in the past 20 years; Sternberg's (1986) triangular theory of love and eight kinds of love also serve as the basis for research and clinical practice. Multiple definitions have resulted in multiple measures of love, leaving researchers and practitioners with the dilemma of selecting the most appropriate measures for their purposes.

There was a noticeable lack of research involving love during the 1950s and 1960s (Curtin, 1973; Elkins & Smith, 1979). Wrightsman and Deaux (1981) noted that during that period, researchers "believed love [was] too mysterious and too intangible for scientific study" (p. 170). However, during the mid-1970s and early 1980s, love became "respectable as an area for study by psychologists" (Hendrick & Hendrick, 1986, p. 392). This professional acceptance resulted in a renewed focus during the 1990s on defining, measuring, and examining love's components, variables, and overall importance as part of holistic well-being (see, e.g., Beall & Sternberg, 1995; Thompson & Borrello, 1992b). Holistic approaches included love as a key life task that is necessary to achieve optimum individual wellness (see. e.g., Myers, Sweeney, & Witmer, 2000: Sweeney & Witmer, 1991). As we entered the new millennium, individuals promoting the "positive psychology" movement began encouraging psychologists to use similar strength-based practices in their work. Lead theorists and practitioners called for a new locus on the “actions [that] lead to well-being, to positive individuals, and to thriving communities" (Seligman & Csikszentmihalyi, 2000, p. 5) rather than on pathology and negativism. Finding ways to both assess and encourage love and loving relationships certainly falls within the framework of this overall trend in the field.

The current view of love reflects a complex, multidimensional concept that is difficult, if not impossible, to define in a universal manner (Beall & Sternberg, 1995; Hendrick & Hendrick, 1989). Thompson and Borrello (1992a) explained that scholars use "two distinct lines of inquiry regarding the nature of love" (p. 154): The deductive inquiry approach is grounded in theory and is used in more traditional classical quantitative research (e.g., Hendrick, Hendrick, & Dicke, 1998). Other researchers take an inductive inquiry approach, which involves fewer specific hypotheses within the context of exploratory research, with an overall goal of developing new theory.
Beall and Sternberg (1995) provided a comprehensive review of definitions of love, arguing for a social-constructionist view of this phenomenon. More specifically, they suggested "both the definition and the emotional experience of love are contextually bound" (p. 417). Noting that love is defined by a culture, they described how conceptions of love have changed over time as cultures have changed. Because people actively construct their perceptions of the world and use culture as a guide for these constructions (Gergen, 1985), it becomes impossible to understand love outside of the context of culture and culturally defined conceptions of acceptability. Beall and Sternberg identified love as "an idea that includes information about a) the beloved, b) the thoughts that accompany love, (c), the feelings that accompany love; and (d) the actions, or the relations between the lover and the beloved" (pp. 433-434).

To study or measure any psychological construct, one must first start with a clear definition of that which is to be measured (Anastasi, 1997). Clearly, then one of the major problems in assessing, aspects of love relates to the lack of a universally accepted definition of this construct. At the same time, that love is "the deepest and most meaningful of sentiments" (Rubin, 1970, p. 265), "a fundamental aspect of being human" (Murthy & Rotzien, 1996, p. 108), and, at least in Western cultures, the basis of marriage, suggests that it may be quite valuable for counselors to assess, in some manner, the nature and meaning of love as a basis for working with individuals, couples, and families. Assessing love requires the selection of suitable measures, clinical methods, or both.

It is not surprising that the existence of multiple definitions of love has resulted in the development of a variety of instruments purporting to measure this phenomenon, A search of PsychFirst, ERIC, and related electronic databases for documents published in the last 25 years did not reveal a comprehensive review of available love instruments or studies that compared the psychometric and practical features of existing instruments. A notable exception is an article by Hendrick and Hendrick (1989) in which five measures of love were assessed and relationships between the measures were examined. The authors completed a factor analysis combining scores for the Love Attitudes Scale (Hendrick & Hendrick, 1986), Sternberg's (1986, 1987) Triangular Love Scale, the Passionate Love Scale (Hatfield & Sprecher, 1986, the Relationship Rating Form (Davis & Todd, 1985), and Hazan and Shaver's (1990) Adult Attachment Questionnaire. For the sample of 391 unmarried college students, five distinct factors emerged, reflecting the themes of passionate love, closeness, ambivalence, secure attachment, and practicality. No rationale for the selection of these instruments was provided beyond noting the purpose to "compare and contrast these measurement approaches" (Hendrick & Hendrick, 1989, p. 784).

Both clinicians and researchers who work with or study aspects of love with individuals and couples require access to appropriate and psychometrically sound instruments. Given the lack of current literature comparing love measures, the purpose of this study was to review available instruments for use in clinical and research settings. The methodology for this review is described, and the criteria by which instruments were selected for inclusion and exclusion) are provided. A brief overview of each of the instruments selected is included and the relative strengths of the instruments are discussed. Implications for counselors and further research needs are considered.

**METHOD**

Following a review of existing electronic databases, a variety of articles were selected for review. Articles chosen were those in which love was defined (e.g., Beall & Sternberg, 1995; O'Sullivan & O'Leary, 1992), love instruments were developed or examined (e.g., Lemieux & Hale, 1999; Murphy & Rotzien, 1996; Rubin, 1970; Thompson & Borrello, 1992b), or aspects of the love construct were explored (e.g., Sternberg, 1986, 1987). The purpose of this review was to gather general information about the various ways the construct of love had been defined, studied, and examined in the literature. Next, an electronic search of Buros's *Mental Measurements Yearbook*, Volumes 1 through 7, was also searched, resulting in the identification of an additional 16 instruments. Three phases were included in the review process. The first two reviews were designed to eliminate instruments that did not meet specified screening criteria (Step 1) or more in-depth review criteria (Step 2). Finally (Step 3), the instruments selected for inclusion were reviewed and compared.
**Step 1: Initial Review**
For each instrument identified in the searches, attempts were made to obtain corresponding test reviews, published articles describing the development of the instrument, and articles in which the instrument was used in research. If the instrument was published, attempts were made to access the manual or technical manuals. The purpose of the first level of review was to determine the purpose of the instrument, its intended uses as identified by the author or authors, the definition of love used to develop the scale, and the theory (if any) underlying the definition of the love construct.

This initial review revealed that the primary purpose of some of the instruments was to measure aspects of love, whereas the purpose of other instruments identified in the search either included or was primarily directed toward the measurement of other characteristics. For example, love was one of 49 subscales in the Clinical Support System Battery (Cassel, 1991) that was developed for the purpose of assessing potential school dropouts, chemical dependency, or both. Several instruments commonly used in couple's counseling, such as the Dyadic Adjustment Scale (Spanier, 1976, 1989 and the Marriage Expectation Inventories (McDonald, Pirro, Cleveland, St McDonald, 1979), were eliminated because they were developed to assess marital characteristics and aspects of marital satisfaction and not primarily aspects of love.

Because the purpose of this review was to identify instruments that measure the construct of love, all instruments developed primarily to measure constructs other than love were eliminated from further review. Many of these instruments included a scale to measure factors such as love or lovability; however, the primary purpose of the instruments was to measure self-esteem, psychopathology, and clinical syndromes not specific to relationships. In addition, some instruments were eliminated from further consideration after close inspection revealed that they did not address love at all but used the word love in a title or subscale and thus were included in the Boolean search results. Following this initial review, 19 of the original 38 instruments remained in the pool for further evaluation.

**Step 2: Second Review**
The second review process involved a closer inspection of the 19 instruments that met the criteria for the first review. At that point, four criteria were used to select a final pool of instruments that measure positive emotionality and that might be useful to clinicians and researchers in counseling. These criteria were that the instruments

- were developed primarily to assess love or aspects of love;
- included the assessment of love as a major component;
- were based in a theory of love as the primary theoretical foundation;
- had been administered or researched in numerous studies;
- or all of these criteria.

Several of the instruments examined in the first review met some of these criteria, but had been used only by the author or authors in published studies and therefore were excluded from further consideration. For example, the Romantic Love Symptom Checklist (Mathes, 1982; Mathes & Wise, 1983) was used only in Mathes’s work, and the instrument itself has never been published. Following this review, nine instruments remained in the pool.

**Step 3: Evaluation of Nine Love Instruments**
For each of the nine instruments identified in the first two steps, a review was accomplished that included the standard components of test reviews identified by authors such as Anastasi (1997). In this section, a brief review of each instrument is included, and a summary and comparison of each of the nine instruments are
provided in tabular form. Although an attempt was made to structure the reviews in a similar manner, the variability in available information for each instrument resulted in sonic reviews being substantially longer or shorter than others. For example, multiple studies have been conducted using the Hendrick and Hendrick (1990) Love Attitudes Scale, Hatfield and Sprecher's (1986) Passionate Love Scale, and Sternberg's Triangular Love Scale (1986). Rubin's early measure, the Rubin Love Scale (1970), has been a standard against which most subsequent love scales have been evaluated. More recent instruments, such as The Miller Love Scale (Miller, 1998) have been studied less intensively yet met the criteria specified for inclusion in this review.

In the Appendix, the title, author, and publication date of each instrument are provided, along with comparative information on the following characteristics of the instruments: purpose, accessibility, foundation theory for defining love, number/type of items, number/type of subscales, reliability, validity, norms, and appropriate usage (research or clinical, or both). Additional information included in the narrative summaries below includes cost and comments of reviewers, if reviews were located. Most of the instruments are in the public domain and thus free to users: when cost is not mentioned, the reader may assume the instrument is available free through references provided at the end of this article (see Appendix).

The nine instruments are

- Attitudes Toward Love Scale (Knox & Sporakowski, 1968)
- A Love Attitudes Inventory: Revised (Knox, 1983)
- Miller Love Scale (Miller, 1998)
- Passionate Love Scale: (Hatfield & Sprecher, 1986)
- The Personal Relationship inventory (Mann, 1991)
- Rubin's Love Scale (1970)
- Scale of Feelings and Behavior of Love: Revised (Swenson, Nelson, Warner, & Dunlap, 1992)
- Sternberg's Triangular Love Scale (Sternberg, 1988)

**Attitudes Toward Love Scale (ATLS).** The ATLS (Knox & Sporakowski, 1968) is a 29-item, self-report questionnaire designed to ascertain an individual's attitudes toward love along a continuum ranging from romantic to nonromantic or conjugal. The authors define romantic love through a series of statements and characteristics describing the phenomenon (e.g., "True love comes but once"). Conjugal love is defined as the antithesis of romantic love and "a more calm, solid, and comforting type of love than romantic love" (Knox & Sporakowski, 1968, p. 639). No specific theoretical basis is provided for the authors' definitions and conceptualization of the love construct.

The ATLS consists of 29 statements that respondents rate on a 5-point Likert-type scale, ranging from 1 = *strongly agree* to 5 = *strongly disagree* (e.g., "Love doesn't make sense; it just is"). All or the responses are summed to compute the individual's score. However, no directions on how to interpret this score are provided. The authors only note the lowest and highest possible scores (29 and 145, respectively) and state that low scores indicate a romantic attitude toward love, whereas high scores indicate a conjugal attitude toward love; no ranges or definitions are given for low or high scores.
The ATLS items were chosen from an initial pool of 200 statements, with the final 29 showing the greatest discrimination ability and yielding a test—retest correlation of .78 over a 1-week time interval (Knox & Sporakowski, 1968). The normative population consisted of 200 college students who were (a) White, (b) reared in the United States, (c) aged 18-22, and (d) single (Knox, & Sporakowski, 1968). Hinkle and Sporakowski (1975) found that the scale was unidimensional; however, they did not clearly identify what the dimension being measured actually was. They also noted that three intercorrelated yet distinct factors exist within the instrument: Traditional Love-One Person, Love Overcomes All, and Irrationality. No instructions on how to interpret these subscales are provided.

A Love Attitudes Inventory: Revised (LAI). The revised edition of the LAI (Knox, 1983) is a 30-item paper-and-pencil instrument designed "to measure attitudes toward love for the purpose of discussion and self-discovery" (Dreyer, 1985). On the basis of the writings of Knox and Sporakowski (1968), love is dichotomized into one of two types: romantic or nonromantic, the latter being termed conjugal. When Dreyer (1985) reviewed the 1983 edition of the LAI, he reported that neither is theoretical basis for the construct of love provided nor is a distinction made between love and liking, nor among altruism and the other forms of affection.

Each item on the LAI is a statement to which respondents reply using a 5-point Likert-type scale that ranges from 1 (strongly agree) to 5 (strongly disagree). The test can be self-scored by adding the totals from all responses. Low scores (30-90) indicate a romantic person, and high scores (91—150) indicate someone who has a realistic or conjugal attitude toward love. The test also includes questions about the respondents' sex, age, marital status, and parents' marital status, as well as two open-ended questions in which respondents are asked to provide feelings and behaviors that they believe demonstrate love.

For the original version of the instrument, test—retest percent agreement during a 1-week period with 25 undergraduates was reported as 78.4% (Knox & Sporakowski, 1968). Split-half reliability corrected by the Spearman-Brown formula, estimated with a population of 100 high school students using the 27 best items from the instrument, was reported to be .89 (Knox, 1970). Content validity was discussed only in terms of how the instrument was developed, with no supporting psychometric research or data provided. The norm group included 300 high school and college students who took the instrument as part of initial testing to determine which items from the larger item pool would be included.

Dreyer (1985) noted that "the LAI lacks sufficient reliability, validity, and standardization to be recommended for use as a research instrument" (p. 636). In addition, although the original version of the instrument was published in 1971 (Knox, 1971), Dreyer (1985) pointed out that the changes made between editions did not result in stronger psychometric properties. However, he did note that "as an informal scale to stimulate group discussion in a class on interpersonal relationships or family life, the LAI might be useful" (p. 636).

An abridged version of the LAI has been cited in several sources (e.g., Knox & Schacht, 2000); however, this shortened version of the instrument has not been published. In addition, no psychometric information related to this shortened version was located during this review. D. H. Knox (personal communication, October 1, 2001) currently owns the copyright for all versions of LAI and provides access for research purposes free of charge (contact knoxd@mail.ecu.edu). This access is contingent on the user agreeing to provide copies of any resulting publications to Dr. Knox.

Love Attitudes Scale (LAS). Hendrick and Hendrick’s (1986) original version of the LAS is a 42-item instrument that measures each of the six love styles posited by Lee (1973). In this model, there are three primary love styles: Eros (romantic or passionate love), Ludas (game-playing love), and Storge (friendship love). In addition, these primary styles can combine to form three secondary love styles: Mania (Ludas/Eros; intense love/hate relationship),Pragma (Storge/Ludas; practical, pragmatic love), and Agape (Eros/Storge, altruistic love). In Lee’s (1973) model, an individual’s love style is based on his or her preferences. As such, a person could have numerous preferences, each of which may be satisfied in a different relationship (Murthy & Rotzien, 1996). Lee (1988) wrote, "it is the relationship that is styled, not the lover" (p. 49).
Reliability analyses on the 42-item LAS produced alpha coefficients ranging from a low .74 to a high of .84 (Hendrick & Hendrick, 1990), and test-retest correlations ranged from .60 to .78 over an unspecified "short-term" interval (Hendrick & Hendrick, 1986, p. 396). The instrument was revised in 1990 so that all of the 42 items referred to a specific love relationship rather than love relationships in general (Hendrick & Hendrick, 1990). This relationship-specific version of the LAS had measurement properties that were "essentially identical to the original version" (Hendrick et al., 1998, p. 147). Several researchers have created or analyzed a variety of shorter versions of the LAS, and some have done both (e.g., Burrello & Thompson, 1990; Morrow, Clark, & Brock, 1995; Thompson & Borrello, 1987). Hendrick et al. (1998) noted that these various attempts did not seem to involve much, if any, revalidation. Recently, the original authors teamed with Dicke to develop two shortened versions (24 and 18 items) of the LAS (Hendrick et al, 1998). All versions of the LAS consist of statements that respondents rate on a 5-point Likert-type scale ranging from strongly agree (1) to strongly disagree (5).

Numerous studies have indicated that the 42-item version of the LAS displays clean factor structure (e.g., Hendrick & Hendrick, 1986, 1989), and the 24- and 18-item versions have similar loadings (Hendrick et al., 1998). In addition, the 24-stem version of the LAS has shown psychometric properties that are "at least equal to and possibly superior to the longer version” (Hendrick et al., 1998, p. 159). Furthermore, all versions of the LAS have been shown to independently measure Lee's (1988) six love styles (e.g., Hendrick et al., 1998).

**Miller Love Scale (MLS).** Unless otherwise noted, the information provided regarding the MLS (Miller, 1998), including all statistics, subscales, and quotations, was obtained from the Meta Development, Inc. (Web site at [http://www.metadevelopment.com/faq/love.html](http://www.metadevelopment.com/faq/love.html). Millers scale was designed to “provide feedback about the positive and negative parts of love.” No theoretical basis for the instrument is provided; the author only writes that the scale was “developed from theory and research proposed by individuals concerned with the construct or love.” The MLS measures eight components of love: Self-Love, Love Motivation, Values, Perception of Partner, Love Thoughts, Love Feelings, Love Behavior, and Spiritual Love. Administration of the MLS is done online, and the results are available immediately.

Test-retest reliability coefficients for a 10-day interval for the subscale scores range from .85 to .92 (H. Miller, personal communication, September 22, 2001). No specific validity information is reported for items from the MLS. The test may be taken and scored online for a fee of $35.

**Passionate Love Scale (PLS).** Hatfield and Sprecher’s (1986) PLS is a 30-item instrument that provides a measure of the level of passionate love in a relationship. The authors dichotomize love into two types: passionate and companionate. The PLS assesses only passionate love, defined as the cognitive (e.g. idealization of the other or of the relationship), emotional/affective (e.g., negative feelings when things go awry), and behavioral (e.g., studying the other person) indicators of "longing for union" (Hatfield & Walster, 1978, p. 405). Respondents rate each item based on their experience of passionate love using a Likert-type scale ranging from not at all true (1) to definitely true (9). Although the authors originally published the PLS with a 9-point Likert scale and have consistently used that version in their studies, many researchers have chosen to use a 5-point scale in their work (e.g., Hendrick & Hendrick, 1989). Typically, no specific explanation for the adaptation is made in these studies.

The PLS was nor med using a sample of 120 college students. A coefficient alpha of .94 was reported as a demonstration of internal consistency of the scores. Hatfield and Sprecher (1986) also reported that test items were largely uncontaminated by social desirability factors (r = .09 with the Social Desirability Scale). Construct validity of the PLS items was established based on higher correlations with scores on the Rubin Love Scale (1970) than with scores on Rubin’s Liking Scale (1970). In addition, numerous studies indicate that the scores are unidimensional, with one factor explaining 70% of the variance, and that the PLS is highly correlated with other measures of intimacy and love (e.g., Hatfield & Rapson, 1987, Hendrick & Hendrick, 1989). In contrast, Fross (1986) found evidence of at least four unique factors underlying the scale scores.
**The Personal Relationship Inventory (PRI).** The PRI (Mann, 1991), originally titled the Love Factor Inventory, is a 119-item self-report inventory "designed to assess one's capacity to love and engage in intimate personal relationship" (Elison, 1995, p. 758). Elison noted that no theory base was provided to explain the choices of "love capacity" constructs. In addition, there are no operational definitions given for any of the constructs measured by the PRI.

The PRI items are presented in statement form, and respondents are asked to rate each item on a 5-point Likert-type scale ranging from absolutely agree to absolutely disagree.

Currently, the PRI can only be administered online (at [http://www.ronmann.com/pri.html](http://www.ronmann.com/pri.html)). A scored report is provided by e-mail and contains a narrative description of the person, along with scores for 13 subscales: Compassion, Friendship, Intimacy, Masculine/Feminine, Primitive Self, Psychological Adjustment, Romantic Love, Self-Respect, Sensitivity, Spirituality, Trust, and Love Capacity, plus a separate Persona scale. Ten items make up each scale, with the exception of the Persona scale (9 items) and the Total Love Capacity score, which is a composite of the other 11 scales.

Internal consistency was measured using Cronbach’s alpha, with coefficients ranging from .73 (Spirituality) to .83 (Psychological Adjustment). There was no internal inconsistency measure reported for the Love Capacity score, and no test-retest reliability estimates are provided. Elison (1995) noted that the validity information provided for the PRI “rests on an elaborate network of rationalizations derived from a series of studies yielding weak to moderate correlations between the PRI and a variety of external variables" (p. 759). In addition, there are high intercorrelations between the scale scores, with a factor analysis revealing only one significant factor garnering 53% of the total interitem variance (Wilkinson, 1995). The population used for norming, including 43% prisoners, 23% students, and 17% mental health professionals, limits generalizeability of results to the general public. On the Web site, Dr. Mann notes that, "the PRI was standardized on over 2,000 participants, ages 14 to 73, from 11 states [and] specific norms exist for both men and women, African Americans, and adolescents" ([http://www.ronmann.com/pri.html](http://www.ronmann.com/pri.html)). However, no further information is provided. Overall, the PRI "suffers from serious psychometric shortcomings" (Wilkinson, 1995, p. 760), and “lacks the theoretical and empirical foundation necessary to make it a good instrument" (Elison, p. 759).

The PRI must be taken online at the aforementioned Web site. The cost of completing the assessment is $49.95. Individuals can also download a free, 32-page guide on how to use and interpret PRI results. This guide provides definitions of the subscales, gives suggestions for further growth and development, and provides sources for additional information.

**Rubin Love Scale (RLS).** The RLS (Rubin, 1970) is a 13-item instrument that is based on a definition of love as "an attitude held by a person toward a particular other person, involving predispositions to think, feel, and behave in certain ways toward that other person” (p. 265). This definition is grounded in previous theoretical writing on the topic of love (e.g., Freud, 1955; Fromm, 1956). Rubin developed the RLS in an effort to measure a construct he termed romantic love. To establish discriminant validity of scores from the scale, Rubin (1970) also developed a parallel Liking Scale. The content of the final RLS assesses three components of romantic love: (a) affiliative and dependent need, (b) predisposition to help, and (c) exclusiveness and absorption.

Responses for items on the RLS are based on a 9-point Likert-type scale ranging from not at all true, disagree completely (1) to definitely true, agree completely (9). The sum of responses yields a Total Love score. Means for the norming population of 158 college couples are provided for comparison and interpretation. Rubin (1970) found high internal consistency (coefficient alpha of .84 for women and .86 for men) for scores from the RLS. In addition, the scale correlated only moderately with the Liking Scale (r = .39 for women and .60 for men). Construct Validity was supported by findings that RLS scores were uncorrelated with scores on the Marlowe-Crowne Social Desirability Scale (r = .01 for both women and men), indicating a construct separate from interpersonal likeability. In an independent study, Dermer and Pyszczynski (1978) replicated Rubin’s findings, reinforcing previous results that indicated both convergent and discriminant validity for RLS scores.
**Scale of Feelings and Behavior of Love: Revised (SFBL-R).** The revised SFBL was designed to “provide a measure of the feelings and behavior manifested by people in relationships with people they said they loved” (Swenson et al., 1992, p. 303). The SFBL was developed from statements made by 300 people when asked to describe what they did for, said to, or felt about people they loved and vice versa. Six factors consistently appeared when factor analysis was performed on administrations of the original instrument. These factors correspond to the six subscales used in both the original and revised version of the SFBL: (1) Verbal Expression of Affection; (2) Self-Disclosure; (3) Toleration of Loved Ones’ Bothersome Aspects; (4) Moral Support, Encouragement, and Interest; (5) Feelings Not Expressed; and (6) Material Evidence of Affection.

The revised version of the SFBL consists of 120 statements that require respondents to rate frequency on a 5-point Likert-type scale ranging from never (1) to always (5). Respondents are instructed to complete the instrument as it pertains to a specific relationship (e.g., spouse, friend at a specific time (e.g., past, present, or future). Although respondents can answer based on numerous types of relationships, the instrument uses "husband" and "wife" descriptors throughout. Skipped items are scored as never responses. Each subscale is scored by summing the respondent’s responses in that area. In addition, a Total Love score is obtained by summing the scores of Subscales 1,2,3,4, and 6 and subtracting the score of Subscale 5.

The authors provide scores for a norm group of 216 married people as a basis for comparison when interpreting the results. The mean age of the sample was 42 years, and the participants had been married an average of 18.27 years (Swenson et al., 1992). Cronbach’s alphas for the subscale scores range from .78 (Toleration) to .97 (Unexpressed Feelings). In addition, Cronbach’s alphas for the Total Love scores and Love Scale Index scores were .95 and .94, respectively. No information regarding validity was provided with the revised instrument; however, Prout (1985) hypothesized that the original version of the instrument “is simply not a valid measure of the various ‘love’ factors that the author postulates” (p. 1311).

**Sternberg’s Triangular Love Scale (SW).** The STLS is based on Sternberg’s (1986) triangular theory of love. According to this theory, the construct of love has three constituent parts: intimacy, commitment, and passion. Intimacy is the emotional component that refers to feelings of warmth, closeness, and sharing in a relationship (Santrock, 1999). The passion component of love consists of the motivational, behavioral, and other sources of arousal that lead to the experience of romance, attraction, and sex (Lemieux & Hale, 1999). Commitment encompasses the decision to love a person and maintain a potential long-term relationship and represents the cognitive aspect of love. In some of Sternberg’s (see, e.g., 1986) early writings, the commitment component is termed decision or commitment/decision.

Two versions of the STLS presently exist. One version (reproduced in Acker & Davis, 1992) consists of 36 "I" statements, whereas the other (published in Sternberg, 1988) contains 45 statements (e.g., "I communicate well with _______"). Both versions require respondents to rate each item on a 9-point Likert-type scale ranging from extremely to not at all. Whitley (1993) writes that both versions of the STLS have internal consistency coefficients for all three subscale scores in the .90 range and that 2-week test—retest correlations range from .75 to .81 (Chojnacki & Walsh, 1990).

Acker and Davis (1992) noted that factor analysis of the 36-item STLS in a 1988 study (Sternberg, 1988) revealed nine items that failed to load on the intended factor and "an additional thirteen items that loaded on multiple factors or did not load substantially on any" (p. 24). Subsequent studies have also indicated psychometric concerns with the 45-item STLS (Hendrick & Hendrick, 1989; Lemieux & Hale, 1999; Whitley, 1993). In the Hendrick, and Hendrick (1989) study, factor analysis again revealed high overlap among items with a failure to support the existence of three distinct item clusters. The authors postulated that the instrument might be measuring only "one major construct or dimension of relationships" (p. 791). Norms for the STLS were not located in this review.
DISCUSSION
In this review, nine instruments assessing the construct of love were selected based on a set of criteria that included published information suggesting that the instruments were based in an accepted theory of the construct of interest. On closer examination, the problem of definition described by Beall and Sternberg (1995) permeated even the nine measures that met the criteria for two initial screenings. Because of the complex nature of the phenomenon of love, it may be that the level of precision desired in this domain will never be realized. Thus, instrument selection likely will be based on more practical measures, such as specific definitions or love: accessibility and cost; items, scales, and scores; reliability; validity; norms; extent/documentation of use/usefulness; and clinical applications.

Definitions
Although love was defined operationally as a basis for developing items for all of the instruments reviewed, the definitions were limited, and love was often conceptualized either as a dichotomy (i.e., "romantic or conjugal," "passionate or compassionate") or as a somewhat vague construct involving relationship dynamics (i.e., "meeting of needs," "a relationship between two people"). Love was defined from a clear theoretical perspective for only two of the measures: Hendrick and Hendrick's Love Attitudes Scale and Sternberg's Triangular Love Scale.

When selecting a test, potential users need to consider how well an author's definition of constructs meets their own criteria and needs. Thus, it is conceivable that some potential users would find the theory-based definitions of Sternberg and Lee in some ways limiting and seek other measures of love. All users would benefit from restricting conclusions about the meaning of scores to the context provided by the author's definition of the construct. Such restriction might severely limit the clinical and research uses of any of these instruments. It is to that Hendrick and Hendrick (1989) identified five higher order factors underlying multiple love assessment measures but did not (yet) provide a new measure that specifically assesses and evaluates the validity of these new factors. Perhaps future studies and instrument development procedures can start with these factors as a foundation and contribute to resolving the problem of definitions that plagues research in the love domain.

Accessibility and Cost
The majority of the instruments reviewed appeared in the literature and can be easily accessed through journal articles or by writing their respective authors, and they can be administered and scored without cost. The exceptions are the Miller Love Scale (MLS) and the Personal Relationship Inventory (PRI). The MLS, which can be administered and scored online for a $35 fee, may be too costly for most users. Similarly, at a cost of $49.95 per online administration, the PRI may lack appeal as well. Although the MLS and PLS may be useful as adjuncts to counseling, the high cost is likely prohibitive for research. As a consequence, future studies of the usefulness of these particular measures is likely to be limited, and researchers will no doubt choose less costly or free measures for studies or love.

Items, Scales, and Scores
All of the instruments reviewed in this article use scaling questions to measure some aspects of love. All use either a 5- or 9-point Likert scale for responses. User preferences will likely dictate which of these response choices is most desirable.

The instruments range in length from 13 items (Rubin's Love Scale) to 120 items (Scale of Feelings and Behaviors of Love: Revised). The high reliability of scores from Rubin's scale combined with the shorter length might incline users to choose this instrument as a screening instrument or useful measure of love. In contrast, although the scores from the Scales of Feelings and Behaviors have high reliabilities, its length may make it undesirable in some clinical and research settings. Given acceptable score reliabilities and response formats, the types of scores may be a more critical factor in test selection among the nine instruments reviewed.

Half of the instruments provide only a total score that measures the presence or level of some type or aspect of love (e.g., romantic love, level of romantic feelings, attitudes, love, passionate feelings). The remaining
instruments examine multiple aspects of love and provide 3 to 13 subscale scores, depending on how love is operationally defined. Some combination of behaviors, attitudes, and feelings are considered in all of the scales. Users wanting more complex and in-depth information about love may prefer measures such as the PRI and Scale of Feelings and Behaviors that provide multiple scores; those wanting an overall assessment, possibly for screening, might choose instruments providing only a single score, such as Rubin’s Love Scale.

**Reliability**

Test-retest reliabilities were reported for scores for four of the instruments examined and ranged from a low of .60 for one of Lee’s (1976 subscales on the LAS to a high of .92 reported by Meta Development (n.d. Reliability section, para 2) for the MLS. Most were in the range of the .80s, and Cronbach’s alpha coefficient, reported for scores from six of the scale, ranged from .73 to .95. The consistency or scores for all instruments was adequate for most users’ purposes. Unfortunately, the existing research across measures is insufficient to conduct the type of reliability generalization study recommended by Vacha-Haase (1998). This type of research offers the potential for more critical analysis of the measures than is available at present.

**Validity**

Evidence of validity also was reported inconsistently across the measures. Concurrent validity studies were reported for most of the scales, with conclusions about the meaning of the findings varying considerably, as summarized in the Appendix. Unfortunately, the external criteria used to evaluate validity were not consistent; thus it is impossible to cite definitive conclusions about the nature of the scales or scores or the usefulness or meaning of the definitions of love used.

Content and construct validity were most often reported based on definitions established when the instruments were first developed. Factor analysis was used to establish validity for scores from the LAS and the PLS. Hendrick and Hendrick (1986, 1989) and Hendrick, Hendrick, and Dicke (1998) reported six factors for the LAS, as hypothesized, whereas Hatfield and Sprecher (1986) reported only one factor for the PLS in contrast to the two factors hypothesized to explain passionate feelings of love. Additional studies using factor analysis and meta-analysis could help to clarify the factors underlying the various measures of love and could provide support for higher order factors, as was found in the review of measures provided by Hendrick and Hendrick (1989).

Another area where research could be useful for all of the measures cited includes convergent as well as discriminant validity studies. Such studies should use multitrait multimethod analyses with large samples representative of various segments of the population. Using multiple love instruments in one study may provide the best evidence of comparative usefulness for the various measures.

**Norms**

Norms for the nine instruments are almost uniformly based in college-age populations, with two exceptions. The Scale of Feelings and Behavior of Love was normed with a sample of primarily midlife adults in long-term marriages, and the Personal Relationship Inventory was normed with a varied and nonrepresentative population of adults and students. Additional research is needed with larger and more representative samples, including married and single and divorced individuals, to determine more specifically how different groups of individuals interpret and experience the various concepts of love.

**Extent of Usage**

If extent of use, or number of published studies using a particular instrument, were the criterion for choice. Hendrick and Hendrick’s Love Attitudes Scale, Hatfield and Sprecher’s Passionate Love Scale, Rubin’s Love Scale, and Sternberg’s Triangular Love Scale would be the instruments of choice for researchers and clinicians. It is likely that researchers have chosen these instruments based on their psychometric properties (i.e., adequate reliability, evidence of factorial or discriminant validity in addition to their being readily accessible, short, and easy to administer and score.
Rubin's Love Scale has been used as a standard in measuring love since 1970 and has been shown to accurately gauge the presence of loving feelings in a relationship (Demier & Pyszczynski, 1978). Although Sternberg's Triangular Theory of Love has been the focus of much study, most individuals examining the theory have begun using instruments other than the STLS in their research. This trend grew out of research that showed the STLS to be psychometrically weak (Whitley, 1993). A choice between the LAS and the PLS would likely rest on the issues or definitions, the desirability of a total score or subscale scores, and concerns about factorial validity. For research purposes, any of these four instruments may be suitable.

Clinical Utility
From a more applied perspective, assessing love in the context of individual, group, or family counseling may result in selection of different instruments than those that might be most suitable for research. In addition to the four mentioned, the Miller Love Scale or the Personal Relationship Inventory, which provide 8 and 13 scores, respectively, might be useful as a basis for discussing the meaning of love and the factors that might be examined to enhance one's ability to sustain a loving relationship. It will be left to the scientist-practitioners to determine the level of utility in intentionally naming and measuring the love construct with clients. In the context or this review, however, it should be noted that clinical rather than research uses seem most prudent for most of the measures examined, the noteworthy exceptions being the LAS, the PLS, and Rubin's Love Scale.

IMPLICATIONS
Whether love is to be assessed for clinical or research purposes, a major limitation of all of the existing instruments is the availability of suitable norms for populations other than college student. Users of any or the measures discussed would be well advised to develop local norms. In a related note, given the problems with definitions of love, qualitative research studies may be useful to examine and clarify the meaning of this construct with persons of differing ages, marital status, and other demographic indices. For example, it has yet to be determined whether the use of the scores generated by any of these instruments is valid or reliable outside the heterosexual demographic. Cross-cultural studies of love, in addition, may provide information on cultural variations in the love construct, as suggested by Beall and Sternberg's social-constructionist view. Practitioners might consider conducting evaluation studies that would focus on the use of both of these various assessment tools and the love construct in general in counseling. A series of such studies could lead to important modifications in both theory and measurement. It also may be useful to measures of love in relation to measures of overall well-being, or wellness, and to determine the contribution of positive emotionality to factors such as holistic wellness.

In conclusion, this review of nine instruments assessing love reveals possible choices for clinicians and researchers. Additional study is needed to develop measures based in varying, contextual definitions, with sound psychometric properties, and norms representative of the general population of adults as well as college students. Until new measures are available, the measurement of love will remain based in the similarity between users' preferred theoretical orientations and definitions and selection among the few existing scales with acceptable psychometric properties.

REFERENCES


APPENDIX

Comparison of Nine Instruments Assessing Positive Emotionality (i.e., Love)

I. Attitude Toward Love Scale (Knox & Sporakowski, 1968)
   A. Accessibility: Knox and Sporakowski, 1968
   B. Purpose: Measures attitude toward love along the romantic-compassionate love continuum
   C. Definition of love: Dichotomizes “romantic” and “conjugal” love; no theoretical basis for the “love” construct is provided.
   D. Number and type of items: 29 items; all reflect romantic attitude toward love: 5-point Likert format
   E. Number and type of subscales: Total score only scored on a romantic to conjugal continuum
   F. Reliability: Test-retest. 78 (1 week)
   G. Validity: Correlations with other variables ranged from -.31 to .34
   H. Norming information: 200 college students who were (1) White, (2) reared in the United States. (3) ages 18 to 22 years, and (4) single
   I. Best usage: Clinical

II. A Love Attitudes Inventory, Revised Edition (Knox, 1983)
   A. Accessibility: Free for research, but resulting publications must be provided to author. Contact David Knox via e-mail at knoxd@mail.ecu.edu or by phone at 252-328-4896
   B. Purpose: Measures attitudes toward love; purpose for discussion and self-discovery
   C. Definition of love: Dichotomizes “romantic” and “conjugal” love; no theoretical basis for the “love” construct is provided
   D. Number and type of items: 30 statements, 5-point Likert format
   E. Number and type of subscales: Total score only scored on a romantic to conjugal continuum
   F. Reliability: Test-retest percent agreement of 78.4%; split-half reliability coefficient of .89 (Spearman-Brown correction)
   G. Validity: Content validity established in initial construction
   H. Norming information: 300 high school and college students
   I. Best usage: Clinical

   B. Purpose: Measures Lee's (1973) six love styles
   C. Definition of love: Based on six of Lee's (1973) orientations or attitudes toward love and focuses on Eros, Ludas, Storge,Pragma, Mania, and Agape
   D. Number and type of items: 42 items (1986, 1990), 24 and 18 items (1998), .5-point Likert format
   E. Number and type of subscales: Six scales: Eros, Ludas, Storge,Pragma, Mania, and Agape
   F. Reliability: Cronbach's alpha range from .74 to .84; test-retest correlations ranged from .60 to .78 over an unreported "short term" interval
   G. Validity: Factor analysis supports six stales
   H. Norming information: Unknown
   I. Best usage: Clinical or research

IV. Miller Love Scale (Miller, 1998)
   A. Accessibility: Administered online for $35 at http://www.metadevelopment.com
   B. Purpose: Measures eight areas of love
   C. Definition of love: Not provided
D. Number and type of items: Not provided
F. Reliability: Subscale scores test-retest (10 days) coefficients ranged from .85 to .92
G. Validity: None provided
H. Norming information: Unknown
I. Best usage: Clinical

V. Passionate Love Scale (Hatfield & Sprecher, 1986)
A. Accessibility: Hatfield and Sprecher, 1986
B. Purpose: Measures passionate feelings toward another person with whom the participant is in love
C. Definition of love: Two kinds of love: passionate (intense, arousing, cognitive, emotional/affective, and behavioral) and companionate (intimate affection)
D. Number and type of items: 30 items, 9-point Likert format
E. Number and type of subscales: Passionate love score only
F. Reliability: Cronbach’s alpha was .94
G. Validity: Factor analyses revealed one clean factor
H. Norming information: 120 college students
I. Best usage: Clinical or research

VI. Personal Relationship Inventory (Mann, 1991)
A. Accessibility: Administered online for $49.95 at http:www.ronmann.com/pri.html
B. Purpose: Measures one’s capacity to love and engage in intimate personal relationships
C. Definition of love: No operational definition of constructs provided
D. Number and type of items: 119 statements, 5-point Likert format
E. Number and type of subscales: 13 scales: Compassion, Friendship, Intimacy, Masculine-Feminine, Primitive Self, Psychological, Trust, Love Capacity (Total), and Persona
F. Reliability: Reliability coefficients for internal consistency for subscale scores range from .73 to .83; no measure of internal consistency for overall Love Capacity score is provided
G. Validity: Concurrent validity of scale scores poorly established; not clear what inventory purports to measure
H. Norming information: 43% prisoners, 23% students, and 17% mental health professionals; web site states “over 2,000 subjects, ages 14 to 73, from 11 states [and] specific norms exist for both men and women, African Americans, and adolescents”
I. Best usage: Clinical

VII. Rubin’s Love Scale (Rubin, 1970)
A. Accessibility: Rubin, 1971
B. Purpose: Measures the presence of romantic love
C. Definition of love: Meeting of affiliation and dependency needs, a pre-disposition to help, and exclusiveness and absorption
D. Number and type of items: 13 items, 9-point Likert scale
E. Number and type of subscales: Total scale score only
F. Reliability: Internal consistency of .84 for women and .86 for men
G. Validity: Discriminant validity established by development of parallel Liking Scale – Correlations of .39 for women and .60 for men between scales
H. Norming information: 158 college couples
I. Best usage: Clinical or research

VIII. Scale of Feelings and Behavior of Love: Revised (Swenson et al., 1992)
A. Accessibility: Swenson et al., 1992
B. **Purpose:** Measures feelings and behaviors manifested by people in relationships with people they said they loved

C. **Definition of love:** Love is a relationship between two people; essence cannot be measured directly, but the manifestation of that relationship in behavior and feelings can

D. **Number and type of items:** 120 items, 5-point Likert scale

E. **Number and type of subscales:** Eight scales: Verbal Expression of Affection, Self-Disclosure, Toleration of Loved One's Bothersome Aspects, Moral Support/Encouragement and Interest, Feelings Not Expressed, Material Evidence of Affection, Total Love Scale, Love Scale Index

F. **Reliability:** Cronbach's alphas for subtle scores ranged from .78 (Toleration) to .97 (Unexpressed Feelings)

G. **Validity:** No information provided for the revised version of the instrument

H. **Norming information:** 216 married people; mean age of 42.06 years and married an average of 18.27 years

I. **Best usage:** Clinical

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**IX. Sternberg's Triangular Love Scale (Sternberg, 1986)**

A. **Accessibility:** Sternberg, 1986

B. **Purpose:** Measures intimacy, passion, and commitment (formerly decision) components of love

C. **Definition of love:** Love includes a large set of behaviors, attitudes, and feelings: includes three components: intimacy, passion, and commitment

D. **Number and type of items:** 45 items, 9-point Likert format

E. **Number and type of subscales:** Three scales: Intimacy, Passion, and Commitment

F. **Reliability:** Cronbach's alphas were over .90; test—retest (2 weeks) ranged from .75 to .81

G. **Validity:** Factor analysis did not support three item clusters

H. **Norming information:** Unknown

I. **Best usage:** Clinical